

TECHNOLOGY

REVIEW

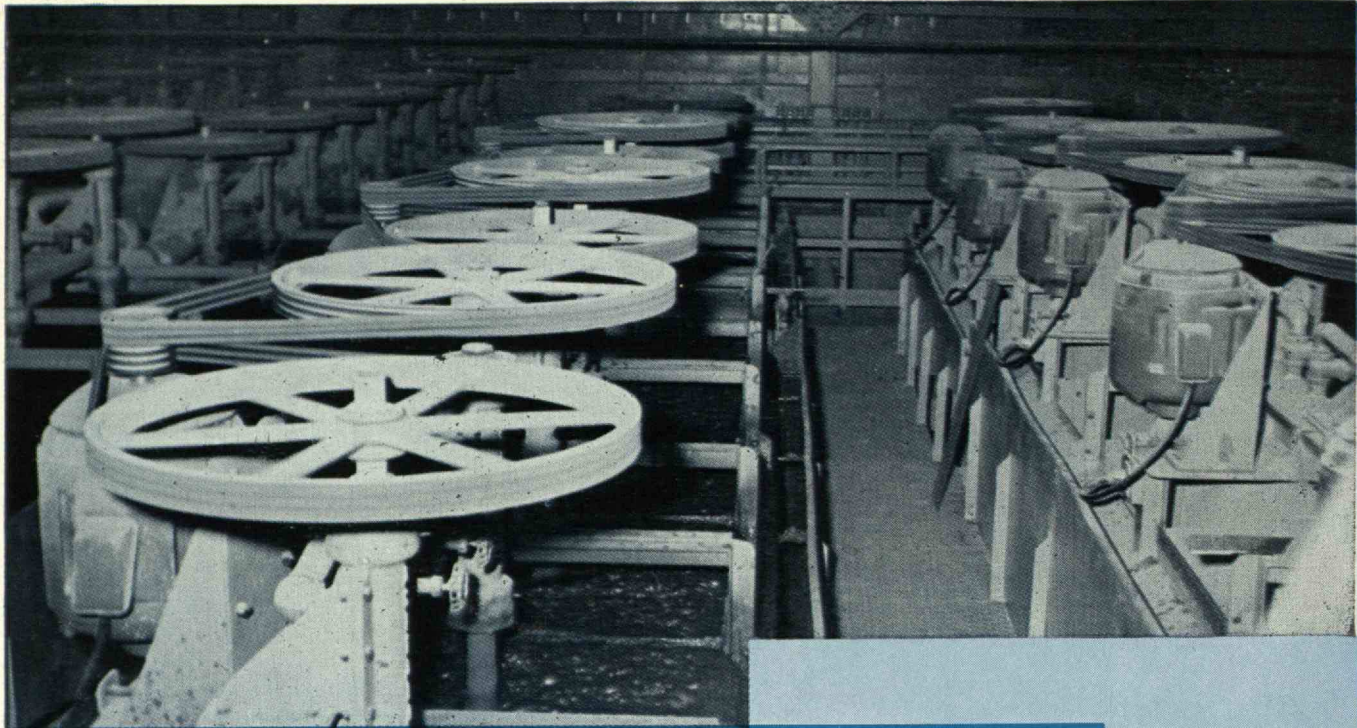
January 1956



technology review

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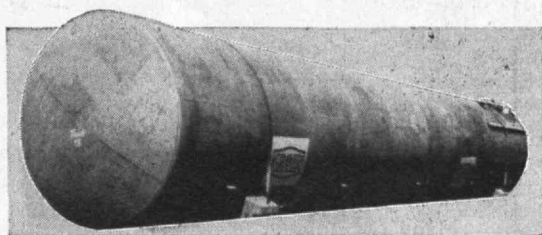
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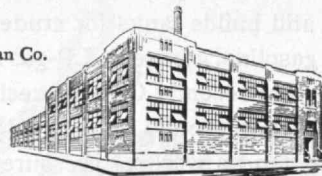
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THE TABULAR VIEW

Arts Colleges. — No regular reader of The Review needs to be reminded that schools of science and engineering are unable to supply the current demand for technically competent personnel. Nor do they need to be refreshed as to the desirability of flavoring a professional technical education with a bit of "the humanities." But are the students of the liberal arts colleges merely "executing intellectual minuets" as has been said? And what is the role of the liberal arts college — especially the small one — in equipping today's youth to cope with a world of jet propulsion and television? This problem is discussed (page 137) by JAMES STACY COLES who in 1952 assumed the presidency of Bowdoin College after a career of teaching and research in chemistry. The combined program of a liberal arts training supplemented by science and engineering, which Bowdoin and M.I.T. operate, gives ample proof of Dr. Coles's contention that a liberal arts training is as necessary for the well-educated man of today as a background in science. President Coles received the B.S. degree from Pennsylvania State Teachers College in 1934; from Columbia University he received the A.B., A.M., and Ph.D. degrees in 1936, 1939, and 1941, respectively. He taught chemistry at the College of the City of New York (1936-1941), Middlebury College (1941-1943), and Brown University (1946-1952). During World War II, Dr. Coles was supervisor of the Underwater Explosives Research Laboratory at Woods Hole, Mass. His article in this issue of The Review is a pleasant sequel to a luncheon meeting at the Faculty Club in November at which the role of the small liberal arts college was unfolded before members of the M.I.T. Faculty.

Brook Farm. — Vociferous proclaimers that ideal conditions for man's welfare are provided by the socialistic or communal state can point out that the Pilgrims practiced a form of communism, and that a number of settlements for socialized living were operating in the United States about a century ago. Some of these colonies were established by well-educated, well-meaning, high-principled — even idealistic — individuals, yet none of them survived. One of the most promising experiments in socialized living was the settlement at Brook Farm, in what
(Concluded on page 128)

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THE TABULAR VIEW

(Concluded from page 126)

is now Roxbury. The progress of this settlement — which attracted such persons as Nathaniel Hawthorne and Charles A. Dana — is traced (page 141) by GORHAM DANA, '91. Born in Charlestown, Mass., and educated in the public schools of Boston, Mr. Dana entered the Institute to study Civil Engineering, and is secretary of the Class of 1891. For many years he was manager of a fire protection bureau. In 1928 he was coauthor with William D. Milne, '08, of a book entitled *Industrial Fire Hazards*, and in 1914 wrote *Automatic Sprinkler Protection*, which enjoyed a good sale among fire protection engineers. Mr. Dana retired in 1939.

Secondary Education. — As more and more youngsters reach the teen age and crowd existing high school facilities to the limit, secondary school education comes under increasing scrutiny. A teacher of high school science points out (page 144) her belief that the primary need in improving precollege training is the establishment of an environment, within the community, conducive to discipline and intellectual achievement of reasonably high caliber. BERTHA S. W. DODGE received the S.M. degree in Chemistry from the Institute in 1922, and has had varied experience in teaching college mathematics as well as high school science. In addition, two grown daughters have contributed to Mrs. Dodge's understanding of young people and their educational needs. In addition to "Unconscious Ambassadors" which appeared in *The Review* for February, 1943, Mrs. Dodge has written an elementary textbook on chemistry for use in teaching student nurses, and is author of *The Story of Nursing*, published in April, 1954, by Little, Brown and Company.



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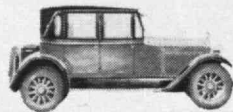
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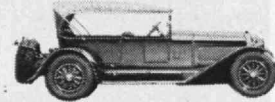
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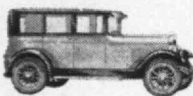
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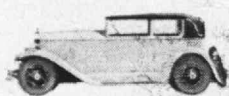
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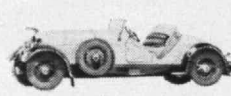
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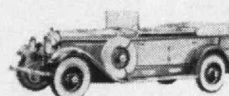
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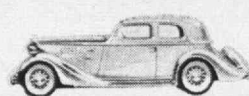
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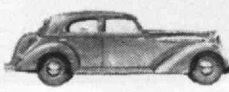
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1952



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1954



1955



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CONTENTS

WINTER ON BEACON HILL

PHOTOGRAPH BY RAYMOND E. HANSON THE COVER

BENJAMIN FRANKLIN STATUE AT THE FRANKLIN INSTITUTE IN PHILADELPHIA

PHOTOGRAPH BY HAROLD M. LAMBERT FRONTISPIECE 132

THE PLACE OF THE SMALL LIBERAL ARTS COLLEGE

BY JAMES S. COLES 137

With growing emphasis on mass educational methods, the small liberal arts college is able to provide an intellectual environment that recognizes and develops the individual

BROOK FARM BY GORHAM DANA 141

A century ago many communal settlements sprang up in the United States, then withered away. The inherent defects of communal living are brought to focus by examining the history of one of the most brilliant and promising of these socialistic experiments

DO TAXPAYERS WANT INTELLECTUAL EMINENCE?

BY BERTHA S. W. DODGE 144

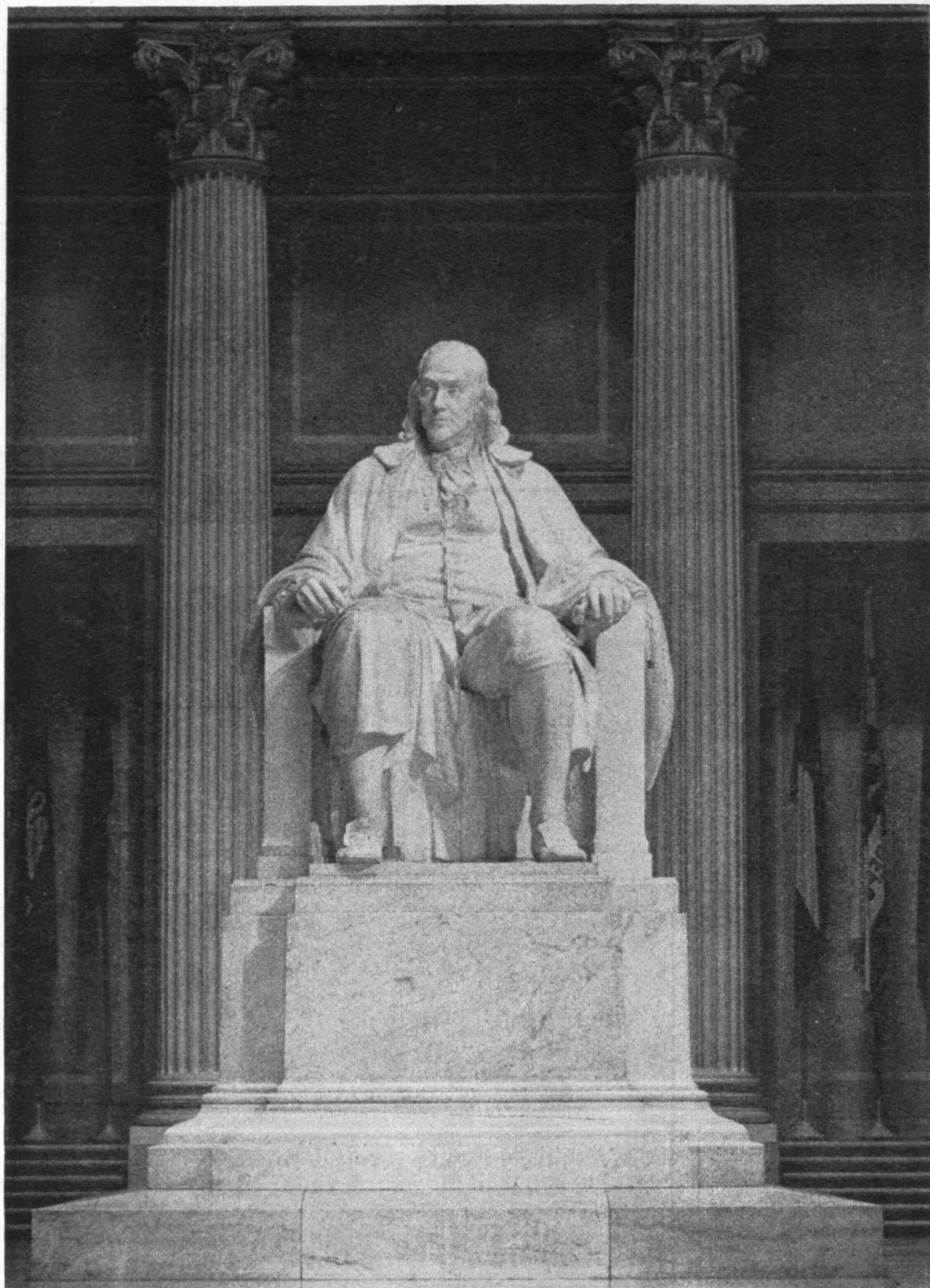
In the view of one high school teacher of science, America's public school system too often creaks at the joints because the teacher is expected to do everything—but teach!

THE TABULAR VIEW • Contributors and Contributions 126

THE TREND OF AFFAIRS • News of Science and Engineering 133

THE INSTITUTE GAZETTE • Relating to the Massachusetts Institute of Technology 147

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Harold M. Lambert

Benjamin Franklin

... rose to international eminence as writer, printer, scientific investigator, inventor, patriot, and statesman in the American Colonies. This statue, at the Franklin Institute in Philadelphia, provides a fitting frontispiece illustration in celebration of the 250th anniversary of Franklin's birth on January 6, 1706 (January 17, new style) in a two-story house on Milk Street in Boston.

THE TECHNOLOGY REVIEW

Vol. 58, No. 3



January, 1956

The Trend of Affairs

Prometheus

"The rapid progress true science now makes, occasions my regretting sometimes that I was born so soon. It is impossible to imagine the height to which may be carried, in a thousand years, the power of man over matter. We may perhaps learn to deprive large masses of their gravity, and give them absolute levity, for the sake of easy transport. Agriculture may diminish its labour and double its produce; all diseases may by sure means be prevented or cured, not excepting even that of old age, and our lives lengthened at pleasure even beyond the antediluvian standard. O that moral science were in a fair way of improvement, that men would cease to be wolves to one another, and that human beings would at length learn what they now improperly call humanity."

— Benjamin Franklin to Joseph Priestley,
February 8, 1780

BENJAMIN FRANKLIN was born January 17, 1706, on Milk Street in Boston. He became the intellectual titan of our Revolutionary period, the man whom Kant labeled the new Prometheus. Under the auspices of the Franklin Institute, a year-long celebration of international scope is being planned to commemorate his birthday 250 years ago.

The list of his accomplishments defies credulity. He was the master negotiator abroad for the American Colonies. He was without a doubt the Colonies' foremost writer, and founded publications which not only gave him a comfortable fortune, but also attained immense influence. In the role of Poor Richard, he created a Farmer's Almanac that became a literary masterpiece, and which may have been read, in all

its countless editions here and abroad, by more people than any other publication except the Bible. He was a noted scientist, who became a member of 25 of the leading scientific and educational societies of his day (19 of them still in existence). He invented the Franklin stove, the lightning rod, and, at the age of 82, a device (still in use) for grabbing objects on high shelves. He captioned and perhaps drew the first American cartoon.

More than any other American he forged this country's aphorisms. "Time is money," he said. "God helps them that help themselves." "He that cannot obey, cannot command." "Three may keep a secret if two of them are dead." "Early to bed and early to rise, makes a man healthy, wealthy, and wise." In all of his pungent aphorisms there was good, sound, moral and economic advice coupled with shrewd observation and keen insight to human nature.

As the creator of the most famous of all *Almanacks*, Franklin had a naturally intense interest in the weather. But with Franklin, observation was coupled with recording. Once, when waiting for an expected eclipse of the moon in Philadelphia, a northeast storm came up about two hours before the expected time of the eclipse, and, of course, obscured the event. Franklin learned later that the beginning of the eclipse had been well observed in Boston, which lies about 400 miles northeast of Philadelphia, and he commented: "This puzzled me because the storm began with us so soon as to prevent any observation and being a northeast storm, I imagined it must have begun rather sooner in places farther to the northeastward than it did at Philadelphia. I therefore mentioned it in a letter to my brother who lived at Boston; and he informed me that the storm did not begin with them till near eleven o'clock, so that they had a good observation of the eclipse. And upon comparing all the other accounts . . . I found the beginning to be always later to the northeastward. . . ." Thus began some understanding of cyclones and anti-

cyclones, although knowledge of them is still scanty.

The same constructive desire to know more of the workings of the world about him, regardless of preconceived notions, led him, from the accounts of American sea captains and from his own observations, to recognize and publicize the existence of the Gulf Stream. And he instantly applied this knowledge, by suggesting courses for the mail packets that would cut down their sailing time across the Atlantic. Since it was his custom, on his many ocean voyages, to measure the temperature of the surrounding water (often several times a day) he suggested the thermometer as an instrument for determining when a ship had entered the Gulf Stream. Although Franklin was one of the most persuasive men of his day, this was one suggestion that was not unanimously well received. The English skippers in particular wanted no part of this amateur's theories on applied science. The situation is somewhat different now. Today tankers and other ships running up and down the eastern coast of the United States regularly use Loran to position themselves accurately in the fastest part of the current when going north, and to avoid the current as much as possible on the return trip.

When Franklin retired from active business at the age of 42, it was to a period of intense political and scientific activity that lasted for another 42 years. History stresses his role as a diplomat and mediator, but it was the pursuit of science, and particularly the phenomena of electricity, that seemed closest to his heart. His book on electricity *Experiments and Observation on Electricity Made at Philadelphia*, became an important text and went through several editions. This and other writings on science made him well known in Europe and resulted in his election to membership in every important scientific society of Europe before he set foot in Paris, where he was sent after he had helped draw up the Declaration of Independence.

Whether or not he was their originator, such words and phrases as armature, charging, discharge, condense, conductor, electrical shock, electrician, negative, and nonconductor became fixed in the vocabulary of science through his usage. He demonstrated the electrical nature of lightning, and was the first to show the presence of electricity by any other way than sparks or discharges. He explained how one coating of a Leyden jar became positively charged while the other acquired a negative charge of equal amount, and verified his findings experimentally with apparatus sent him from England by Peter Collinson. In this work—coupled with his single fluid theory of electricity—he presented the law of conservation of charge. Yet he saw his first experiment with electricity in Boston when he was 40 years old, and his major contributions to electricity were made in the following half decade. His invention of the lightning rod stemmed from his independent observation that sharp points tend to draw a spark from a charged object more readily than do blunt bodies.

His celebrated kite for attracting lightning was no casual experiment, but part of a systematic study to deduce the nature of lightning. As he said in a letter, "As soon as any of the thunder clouds come over

the kite, the pointed wire will draw the electric fire from them, and the kite, with all the twine, will be electrified, and the loose filaments of the twine will stand out every way, and be attracted by an approaching finger. And when the rain has wet the kite and twine, so that it can conduct the electric fire freely, you will find it stream out plentifully from the key on the approach of your knuckle. At this key the phial may be charged; and from electric fire thus obtained, spirits may be kindled, and all the other electric experiments be performed, which are usually done by the help of a rubbed glass globe or tube, and thereby the sameness of the electric matter with that of lightning completely demonstrated."

Like Prometheus, who stole fire from the lightning of Zeus, Benjamin Franklin burned with hope for the future of man. In so far as the welfare of man could be influenced by science, his most optimistic predictions have, on the whole, turned out to be less than the actuality. But as he also foresaw correctly, the great dangers to man stem from his own uncontrolled passions, and from the barriers his suspicions and hatreds put in the way of mutual understanding. It is appropriate therefore, that a central theme of the 250th Anniversary Celebration of his birth is a worldwide program of voluntary exchange of ideas between nations.

The Unregenerate

THE ability to regenerate parts amputated or broken off is stronger in plants than in animals. Regenerative ability of one plant is a source of summertime vexation to suburbanites, who carefully amputate their lawns with mowers only to find the grass lustily regenerating before a week has passed. Woody perennial plants also regenerate vigorously; a horticultural example are hedges, which continue to grow no matter how ruthlessly they are cut back. Even the stumps of huge old trees often put forth vigorous young shoots after the trees have been felled.

In the animal kingdom regeneration occurs in hydra (aquatic polyps), planarians (flatworms), earthworms, amphibians, crustaceans, and starfish; and to a limited degree in mammals including man.

Animal regeneration was first reported scientifically in 1744, on the basis of observation of hydra. In these animals the phenomenon is most pronounced; if a single organism is cut into numerous parts, each part will regenerate an entire animal. In flatworms and earthworms a severed head, tail, or mid-section will replace all missing parts. Starfish regenerate a complete animal from just one of the five arms with a bit of the central disk. This fact unfortunately was originally unknown to oyster growers, who seek to destroy starfish because they regularly prey upon oysters. At one time the oystermen dredged up starfish, chopped them in pieces and threw them back into the sea with the belief that they had been killed. This practice instead increased the starfish population much faster than normally would have occurred. Relatives of the starfish, the brittle stars, combine regeneration with an ability called *autotomy* (self-amputation) as a

means of defense. If one of the animal's arms is seized by an enemy, the brittle star instantly casts off this member, and later speedily regenerates it.

Crustaceans (such as crayfish) and amphibians (such as salamanders) — animals considerably higher on the developmental scale than any mentioned so far — are able to regenerate severed limbs or tails. Some crustacean species employ autotomy, detaching appendages as necessary to escape from predators.

As we look still higher up on the developmental ladder, we find that the mammals including man can regenerate certain tissues, such as skin, hair, nails, liver, bone, nerve, and muscles. In the human being, the hair has more vigorous regenerative powers than any other tissue. This is a bane to men, as in the present clean-shaven era it necessitates matutinal sessions with razor or electric shaver, and fortnightly expeditions to the barber chair. For women, contrariwise, regeneration of hair is a boon, as it provides an ever-replenished supply of material to be sculpted and molded by beauticians into the latest of the highly mutable feminine hair fashions.

Like hair, the nails of mammals are constantly replenished. In wild animals, the nails are constantly wear away as the beasts walk on all fours, and as they use nails for tools and weapons. Animals in zoos and dogs in the home, which are relatively inactive and need not fight or dig for their food, must often have their nails trimmed lest they grow to ungainly lengths. Horses tread on the nail of the middle toe of each foot. In wild horses, regrowth of this nail — the hoof — keeps neatly apace of the wearing away of the surface that touches the ground. When horses are shod, such natural attrition is prevented. Hence, the blacksmith must pare and file the hoof at each shoeing. The human being's hands and feet are usually well shielded from wear and tear; hence man must regularly trim his fingernails and toenails, or else delegate this operation to manicurists, pedicurists, or chiropodists.

Regeneration of skin may be observed whenever a cut heals; regeneration of bone is evidenced when a fracture mends.

The front or incisor teeth of rodents continuously regenerate from the roots, for these teeth are rapidly worn away at the cutting edge, in consequence of the animals' gnawing habits.

In general, however, entire organs of mammals cannot be regrown, because tissue regeneration is not sufficiently co-ordinated. One exception to this rule is the blood vessels. The man in the street is now scientifically erudite concerning the cardiovascular system, as a result of the flood of articles on the subject appearing in the lay press after President Eisenhower's heart attack in the autumn of 1955; therefore, who does not now know when a major blood vessel is interrupted by blockage or by being cut, "collateral circulation" may be established by new vessels growing around the defect. This is tantamount to regeneration of a whole organ.

Sometimes regeneration in lower animals gives rise to strange aberrations. Thus occasionally when an earthworm loses its head, it regenerates a second tail in place of the missing member. Such a monster would be perfectly viable, were it not that without

a head it lacks eating apparatus and therefore starves to death. If the eye is cut out of certain marine crustaceans, they may grow antenna-like sensory organs in place of the eye.

In the human being, aberrations of regeneration may occur in healing of the skin and underlying tissues, as when the lesions of smallpox, acne, or boils heal to leave unsightly pits, or when a cut leaves a bad scar. Recently dermatologists have come to employ regenerative powers of the skin to rectify such cosmetic defects, and also to eliminate naturally occurring pigmented blemishes and unwanted tattoos.

The procedure employed is merely a skillful grinding away of the skin at, and immediately around, the defect. This grinding is done with circular stones, burs, or wire brushes spun at high speed by means of a motor-driven flexible shaft, similar to those employed by dentists and also found in many modern home workshops. The area to be ground is made insusceptible to pain and also made sufficiently rigid for easy grinding by "refrigeration anesthesia," which means local freezing accomplished by spraying with a highly volatile substance such as ethyl chloride. After the desired amount of tissue has been ground away, the area is carefully dressed and otherwise protected against infection. As a rule relatively blemishless skin regenerates within a few weeks. When scars are deeply pitted, the procedure may need to be repeated as many as three times; this may be freely done at half yearly intervals.

One might well wish that the human being possessed full powers of regeneration, and were able to replace any part lost through injury or removed surgically. But it is heartening to know that skin regeneration is useful in the remedying of cosmetic defects, which in this competitive modern world may transcend considerations of vanity and indeed be grave economic handicaps.

New Magnetic Materials

UNTIL recent years, all commercial magnetic materials have been metals which are characterized by low electrical resistivity. Because of their low electrical resistivity, undesirable losses arise in metals as a result of induced eddy currents. Such losses can be reduced by rolling magnetic metals into thin tapes or sheets; thicknesses as small as 0.000125 inch are used in modern, high-frequency applications. However, the required techniques are expensive and do not produce sufficiently uniform results for large information-storage units in modern, high-speed computers. Further, they are too slow when used in coincident-current circuits even when eddy-current effects are essentially eliminated. Eddy-current losses will also be reduced if the electrical resistivity of the magnetic material can be increased, and this possibility has led to the development of a new class of important magnetic materials.

Development programs, both here and abroad, have been directed toward the production of non-metallic magnetic materials of high electrical resistivity. These materials are polycrystalline, sintered metallic oxides, called ferrites, which are the chemical and structural analogues of magnetite, the

magnetic oxide of iron, Fe_3O_4 . The electrical resistivity of ferrites is from 10^8 to 10^{12} times that of metals showing substantially the same magnetic properties; eddy-current losses are, therefore, greatly reduced. Moreover, a considerable variation in magnetic properties is possible in ferrites through different cation substitutions in the magnetic formula.

The new magnetic materials have already proven themselves in many applications, particularly at high frequencies or where high speeds are required. One of the most striking of these applications has been the use of ferrite cores as information-storage elements in high-speed digital computers.

In the last few years, development work on ferrite materials has gone on steadily with gratifying results. For example, improved materials used with improved memory techniques promise a thirtyfold increase in memory performance rating over the first magnetic core memory installed 20 months ago, a memory which was, in turn, fourfold superior to the electrostatic memory it replaced. The performance rating evaluates storage capacity, reliability and speed; it is expressed in bits of information stored per cathode-microsecond. The new magnetic materials are the result of a program of research aimed at both theoretical and practical problems.

In addition to high electrical resistivity, the magnetic material for high-speed, coincident-current, random-access memories must also have a rectangular B - H loop with flat top and steep sides. The coercivity (that is, the reverse magnetic field which has to be applied to annul the residual magnetism of the substance) should be low to keep power requirements at a minimum. Finally, the material should be adaptable to manufacture in large quantities with uniform magnetic and electrical properties.

The first phase of a program to obtain such cores consisted of an evaluation and selection of the best commercially available ferrites. In order to provide a basis for new material development, a scientific understanding of the magnetic properties of existing ferrites was needed. This understanding would permit an improvement of existing materials and suggest new materials with inherently better qualities. Accordingly, a program was established under the supervision of John B. Goodenough, physicist, and Francis E. Vinal, '41, chemist, staff members of the Lincoln Laboratory, to study ferrites for computer applications.

The first step in this program was to determine the physical mechanisms controlling the flux-reversal time and the shape of the B - H curve, and to express these factors in terms of fundamental, measurable parameters of the magnetic material. Once this was accomplished, it became necessary to study the crystalline forces, with their chemical and processing dependencies, which are responsible for the magnitude and sign of the fundamental, measurable parameters. Simultaneously with the theoretical and associated experimental work, a program was initiated to isolate and study the many processing variables in the production of existing polycrystalline, sintered ferrites.

A theory of flux-reversal in polycrystalline materials has been proposed, together with a theory of

the factors which influence the shape of the B - H loop. These studies indicate that short flux-reversal times and square B - H loops can be achieved simultaneously only by compromising the most desirable values of coercivity and intensity of magnetization; the coercivity limits the flux-reversal time in a coincident-current application, and unless grain-to-grain alignment can be introduced, the intensity of magnetization limits the squareness of the B - H loop. The theory also predicts that square-looped materials cannot be obtained if lamellar or grain-boundary precipitates are present, whereas small inter-granular flaws can be tolerated. An extensive survey of the magnesium-manganese ferrite system has shown that the compositional region in which square B - H loops are found is bounded by regions in which lamellar or grain-boundary precipitates occur; the loop shape is relatively insensitive to the density of small granular voids which are usually present in these sintered oxides. The theory also predicts that the predominant contribution to the coercivity in a single-phase, polycrystalline material is inversely proportional to grain size. It has been found possible to control the magnitude of the coercivity, within limits, by controlling grain size. Therefore, for a material with a fixed figure of merit, it is now possible to control the flux-reversal time by controlling the firing cycle.

To determine the crystalline forces which are responsible for the magnitude and sign of the fundamental, measurable parameters, present work is going on in two directions. Investigations are under way which are designed to show how the chemical bonding and the processing variables determine the chemistry of a given sintered oxide. Previous investigators have assumed that the chemical bond in the ferrites is predominantly ionic, but a study of the influence of covalent bonding in these materials is proving extremely fruitful. A systematic analysis has been conducted for each of the many processing variables, including chemical composition, mixing, forming, heat treatments, atmospheres, density, and micro-structure. Substantial progress has resulted from this investigation.

The progress which has been achieved in this program becomes evident when the properties of currently available memory cores are compared with those of the best commercially available cores of two years ago. Loop rectangularity has been improved while the operating margin (as measured by maximum permissible variation in driving current) has been widened by as much as 100 per cent. Reduction in noise signals and improved discrimination in output signals has been achieved. Also, an increase of about 33 per cent in operating speed has been realized and measured by pulse response characteristics. Finally, at least 95 per cent of the cores produced are sufficiently uniform as to be acceptable for the intended use.

As a consequence of improved magnetic materials, computer design may now be undertaken in terms of larger, more reliable random-access memories with greatly improved performance ratings and higher speeds. In addition, the research work undertaken to improve ferrite materials for computer service will undoubtedly yield additional benefits.

The Place of the Small Liberal Arts College

*The True Test of an Institution Is Not Its Buildings,
Its Faculty, or Its Endowment, but Rather in
the Graduates It Gives to the World*

By JAMES S. COLES

ONE might ask, "What are the common grounds between a small liberal arts college like Bowdoin and M.I.T.?" Bowdoin has less than 800 students compared with the Institute's 5,000-odd. In fact, the Bowdoin students number fewer than the M.I.T. Faculty. Bowdoin is for men only, while M.I.T. is coeducational. The position of M.I.T. is pre-eminent in the nation's scientific and economic community and in its contributions to the national defense. Such pre-eminence as Bowdoin may have is primarily limited to the small group of her enthusiastic and loyal alumni, and to those who may have had some connection with her. Sometimes, even some of these alumni are not so loyal or enthusiastic, which points up another difference: Bowdoin regularly plays intercollegiate football, although there are those who occasionally doubt that she has a team.

Because of my own early interest in science, and my training and work in physical chemistry — which occupied me fully until the summer of 1951, a little more than four years ago — I sometimes wonder at my present position and interest in one of the liberal arts colleges.

There is a story about a discussion between two members of the Harvard faculty soon after Conant was named the president of Harvard. One of them said, "He may be a fine chemist, but he'll never make a good President." The other pointed out that Charles William Eliot had been a fine Harvard president, although prior to that he had been a chemist — indeed, a professor of chemistry at M.I.T. To this the first replied, "Yes, but Eliot was a mighty poor chemist." I don't know what may have led Professor Eliot to forsake chemistry to become a college president, but I fear my friends in the Chemistry Department here might perceive some similarities which I won't pursue any further.

That there has been in the past a dichotomy between the liberal arts and technology is unquestioned. In my own youthful arrogance I was apt to think of liberal arts students as merely "executing intellectual minuets." I joined with many other aspirants toward science and engineering in considering a liberal arts college as the perpetual Saturnalia of modern civilization; its students the "lotus eaters" of the new generation. A fine college, as opposed to a poor one, was one where the freshmen could not be diverted

from their intellectual pursuits in spite of the best efforts of the sophomores. It was said that one of the greatest values in being a graduate of a liberal arts college was that forever after you would never have to buy bonds from a stranger. The existence of these colleges was justified in my mind because I felt that no college could ever hurt anyone who was willing to learn something after he was graduated. You can appreciate that with these impressions the M.I.T. program of the early 1930's had much appeal for me.

On the other hand, this same arrogance among those who felt the new power of science and technology led to reactions such as those of Anthony Standen in his book *Science Is a Sacred Cow** which can best be criticized by saying it was 20 years out of date when it was published. Without question, the inability of scientists to communicate the exciting importance of their frontier discoveries of the 1920's to an awaiting public, justified the charge of obscurantism placed on them by men like Whitehead. We must admit, too, that many technical men of years past have had a blindness equaled today only by some Congressional investigating committees. The exponents of the liberal arts quite properly held that equally important to an engineering student to learning how to earn a living, was for him to learn what to do with the living after he had earned it.

Much of this feeling still holds among certain faculty segments. In a recent national survey some scientists at large institutions maintained the quality of work in liberal arts colleges to be poor, especially in the sciences, and further, that it was unfair to young people to offer them the meager diet found in such schools. On the other hand, men teaching in small liberal arts colleges are tempted to believe that the activity in the liberal arts at a place like M.I.T. is of a sort suggested by the title of the recent book *Machine Translation of Languages*,† edited by Professor William N. Locke, Head of the Department of Modern Languages (incidentally, a graduate of Bowdoin College).

These differences, which do exist among groups both primarily interested in higher education, are reminiscent of the discussion of two British clergymen

* New York: E. P. Dutton and Company, Inc., 1950.

† New York: John Wiley and Sons, Inc. (with the Technology Press), 1955.



Dave Lawlor

With an enrollment of about 1,000 students, Colby College in Waterville, Maine, is representative of the liberal arts colleges whose role in modern education is discussed by Dr. Coles.

of opposite persuasion, who found themselves sharing a compartment on an English train for longer than they wanted to be together. It is easy to imagine the testiness and the polite deference of their forced conversation, culminating in the remark of the one clergyman to the other at the end of their journey, "It has been interesting to have heard your views, Reverend Sir, and I wish you Godspeed as we part, each of us to go about the Lord's work, you in your way, and I in His."

The technical institutes of this country were founded to fulfill a need which was not being met by the liberal arts colleges of the Nineteenth Century. These infant schools properly did not emulate the existing colleges, for no institution can be great by imitation. That the technical institutes fulfilled the need for which they were founded is attested by the economic and productive position of the United States, and by the common conveniences of everyday American life.

In fact, the successes of science and technology have been almost overwhelming, and have far outstripped the advances in our knowledge and understanding of human relations — economics, sociology, political science, and government — and our ability in the recording and classification of human relations through the study of history.

In recent decades, however, industrial and economic leaders, as well as leaders in technical education, have recognized that man cannot live on bread alone, nor can he live on iron or steel, titanium or vanadium; nor can he live solely on poetry, art, or music. They recognize that there is a void in a nation whose people don't worry as much about philosophy or literature as they do about where to park their cars. They recognize that while the attainments of science

cannot wait for the systematizing of our understanding of social forces, neither can science continue its advance oblivious to these forces.

For this reason men everywhere have applauded the introduction by leading technical institutes of liberal arts courses in their program, and the establishment of departments in the humanities and social studies on an equal basis with the sciences. They rejoice that the strength of these institutes presently supports all areas of human culture, and they acclaim the success of these programs, as exemplified here at M.I.T. They recognize that the faculties of some technical schools are more progressive in their attack upon the problems and teaching of the humanities and social sciences than are some faculties in the liberal arts colleges themselves.

All of you can easily agree with me that we have no fear about the future of science and technology — its progress is assured. Problems in these areas are in competent hands. But we do have much trepidation about future relations between men, governments, and societies, and their adjustment to the intellectual and material products of science. The greatest problems, not only of world peace, but of human preservation, are not those of science, but rather those of sociology, politics, economics, and government.

The problems of science and technology are relatively easy. They are capable of precise definition, of quantitative expression; they will yield to the power of controlled experiment, and theoretical or mathematical consideration.

Contrariwise, our social, economic, and political problems — and indeed our problems of philosophy — are much more diffuse and nebulous, difficult of definition, evasive of exposition, not subject to easily controlled experiment, nor to verifiable, theoretical

interpretation. In spite of introductory efforts in this direction, the powerful quantitative techniques of mathematics — to which modern chemistry, physics, and engineering are so indebted — have yet to be applied in any large degree to other areas. Unquestionably the new computers will revolutionize research in the social sciences to an even greater extent than they will in the sciences, which have already benefited from strong mathematical tools. Witness, for example, the work in machine translation in which Professor Locke is interested.

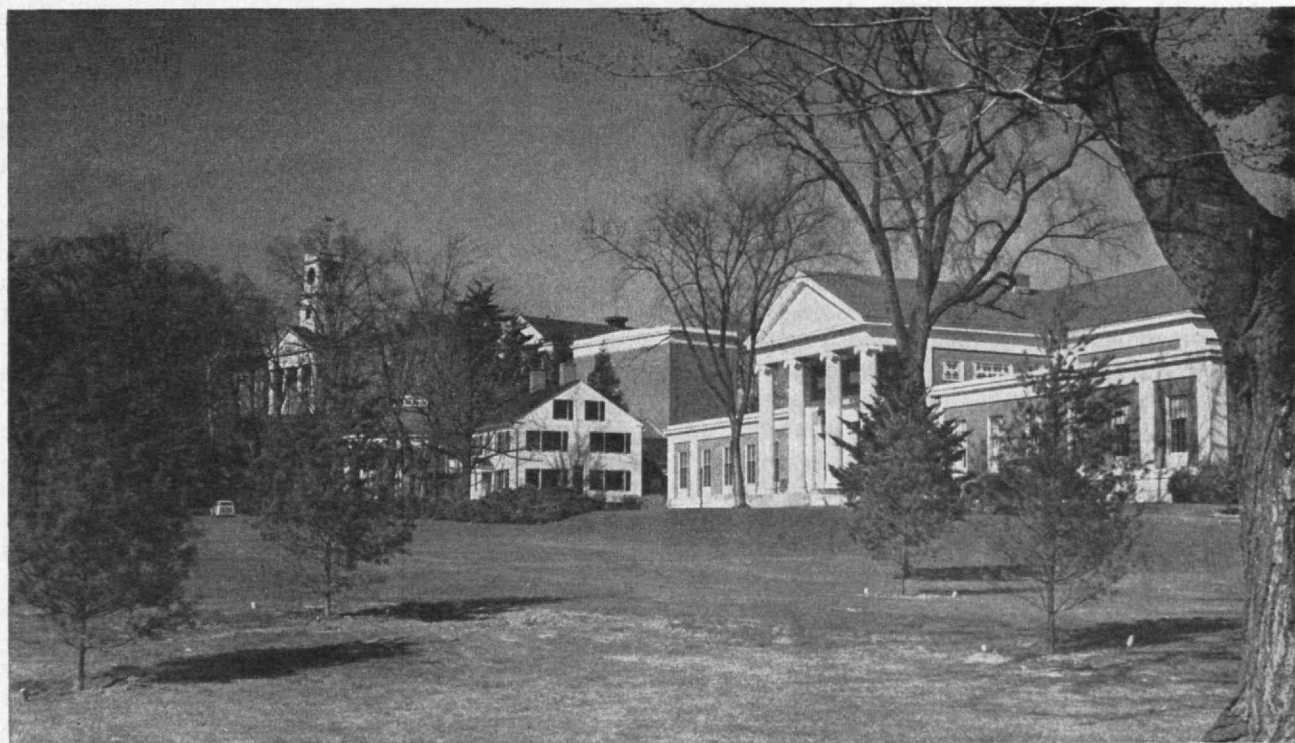
There is another difficult aspect in achieving a solution for these most important problems in human relations, and I mention this at the risk of censure by exponents of the liberal arts, on the Bowdoin faculty and elsewhere. It is my belief that on the average, across the country as a whole, students with the abler minds are more often attracted toward the sciences and engineering than toward other fields. I do not say that the sciences do not need them, for heaven knows they do, particularly at this juncture of our history. I recognize also that many brilliant men are interested in the humanities and social sciences. This greater and selective attraction of the sciences is a natural consequence when a conscientious and sincere boy, with a brilliant but yet immature mind, begins searching for the problems of the world to be solved to which he hopes to apply himself. He finds first those problems which are easily defined and most clearly described — those in mathematics, the sciences, and engineering. (For those youngsters whose approach is less idealistic, and based upon professional opportunity, the same result will obtain, for through the nature of our social system, economic support will

be stronger where problems are clear in definition, and subject to organized attack.)

This same lad is prepared for scientific study, for he has had the capability to excel in his early work in mathematics, so basic to all the sciences. By the time the man with the fine mind — “The Man with the Grey Unflannelled Noggin” — has sufficient experience and knowledge to recognize the importance of the less well-defined problems in the nonscience disciplines, he is already so far committed in science that he cannot change his field without great sacrifices. Thus, on the average, the competency of the attack on these greater problems of humanity is not so great as it could or should be were there to be an earlier recognition and appreciation of these problems by more of our ablest youth.

The position of the liberal arts, embracing all of science, social studies, and the humanities, is thus well recognized. With the behemoths such as Harvard and M.I.T. so strongly supporting the liberal arts, where then is there a place for the small liberal arts college? It can and does present a strong integrated program in the humanities, social studies, and sciences, but that program is no stronger than similar ones in larger institutions.

As in all matters, there is involved in this distinction the recognition of individual differences. The justification for the small college as opposed to the large depends in large extent upon the particular requirements of the student who selects it. The small liberal arts college, with a predominantly undergraduate student body, places primary emphasis upon the instructional program. In so doing, it seeks for its faculty the most competent scholars — the same sort



Dave Lawlor

Along with Bowdoin College, of which James S. Coles is president, Amherst College at Amherst, Mass. (shown above) is one of a score of colleges which co-operate with M.I.T. to provide training in the liberal arts as well as in engineering and science. Upon the successful completion of a five-year program, the student is awarded suitable bachelor degrees from each of the educational institutions in the combined plan.

you seek at M.I.T. — but it further stresses a high degree of teaching ability and marked interest in undergraduates.

The emphases upon instruction in a small college are manifold. There is a budgetary emphasis, made possible because there are not the extensive demands on the resources of the college for the support of an intensive research program, such as at a larger university or technical institute. The college's resources are primarily for the support of the undergraduate instructional program.

There is also the philosophical emphasis upon "teaching" in a small undergraduate college. The faculty are selected because of their interest in teaching. They realize that their success at the college will depend principally upon their successes in the classroom and with their students. Contrary to the opinions often held elsewhere, they realize, too, that to retain their value as teachers, they must maintain a lively interest in their chosen field. Hence, the college encourages, and the faculty actively follow, scholarly pursuits outside the classroom.

In the modern liberal arts college, facilities for research and scholarship are not lacking. Bowdoin has excellent laboratories for physics, biology, chemistry, and psychology, as well as for music and drama. The library has almost a quarter of a million volumes, and there is ready access to the libraries of the world, by loan or by microfilm. That a man can be a creative scholar in a liberal arts college environment is demonstrated by the productivity of the Bowdoin faculty, averaging 20 to 25 articles published each year, in addition to numerous addresses and learned papers presented before distinguished groups. While I do not have exact figures, in the past five years approximately 10 texts written by members of the faculty have been published by reputable firms. (This does not include the publication by a single professor within the last decade of 10 books of fiction, semifiction, and poetry, more than 30 magazine articles, and over 200 poems.)

As exemplary of the recognition which can accrue to a faculty in such an environment, a man who retired two years ago has been since deluged with invitations from one or another of several universities to join its faculty as a visiting professor. This man finally succumbed, and is presently conducting a graduate seminar in medieval history at a large state university. Another man has been frequently a visiting professor at universities at home and abroad, and next year will occupy a visiting chair at the other Cambridge, in England. These distinctions all come to a small and intimate faculty.

The identical men carry the regular undergraduate teaching load; the totality of their efforts in instruction is directed toward the undergraduate, to his tremendous advantage. For example, I can claim (with justified pride) that the quality of instruction throughout the program in freshman English at Bowdoin this very year is unsurpassed.

The smallness of the faculty in itself gives a coherence and integrity impossible at larger institutions. There is a faculty group responsibility, stronger by far than the lines separating departments. The faculty includes among its members the newest instructor as well as the distinguished graybeard. The small college

faculty has dignity, but avoids the ponderousness of the "academic senate," and the brash young instructor with fresh ideas helps materially in keeping the sage elder statesman alert to progressive thinking unimpeded by experience; the statesman faces the necessity of making his own long-held beliefs come alive. Then, too, with a small faculty there is the greater flexibility that is impossible in a large group — a flexibility built from intimacy and confidence, which is felt with respect to curriculum, standards, and many other aspects of the college's work.

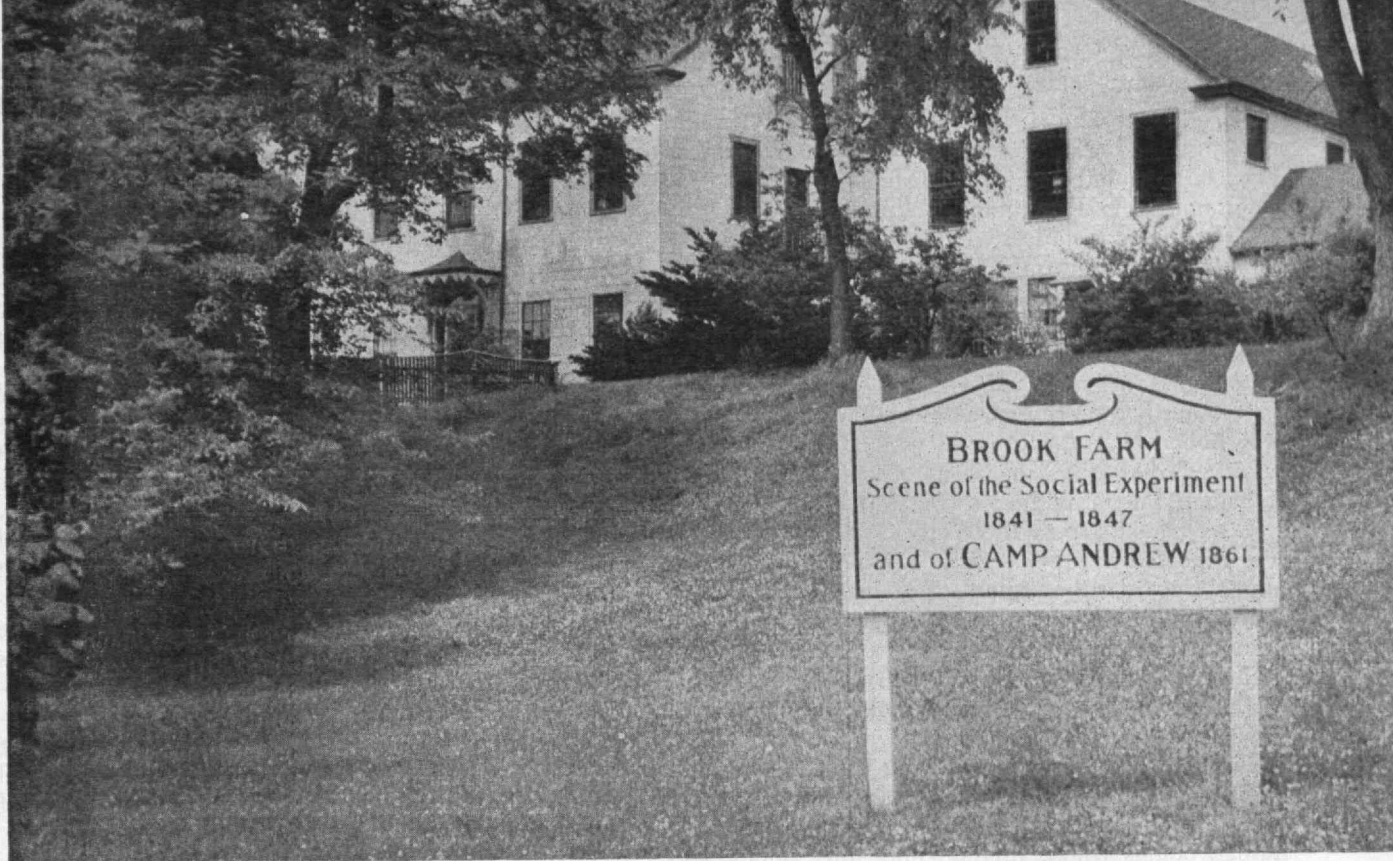
Among the students themselves, the small college provides greater intimacy between different campus groups than is possible at a larger institution. It is very hard to define the size of a small college, and study will show that all those which have maintained their quality have expanded in size over the years at a fairly constant rate. This is true of Bowdoin, where with the exception of the war years, the slope of the growth curve for the first decade of this century predicts all subsequent enrollments within plus or minus 10 per cent. (President Baxter of Williams once defined a small college as one where each student can expect to know every other student he meets on the campus, and if a student meets a man he doesn't know, he feels a responsibility to find out who he is.) It's something like the definition of a small town — a place where everybody knows whose check is good. A small college is one where everybody knows who is next to be elected to Phi Beta Kappa, and who is next to flunk out and why.

This enforced intimacy actually gives a student a wider experience in human relations than he would otherwise have, for he cannot limit his acquaintance only to men of similar views and beliefs to his own, but perforce will have friends among men of widely varying interests. In many ways, the small college has advantages similar to some of those claimed for the Institute for Advanced Study at Princeton: the intimacy of a small group, the advantages of close association, and the restricted use of relatively limited resources to those persons and projects able to profit most.

The common experience of the whole community enjoying the same concerts, the same lectures, the same joys and the same griefs — all these develop an integrated sympathy and understanding. The cup of coffee with one's professor or one's student in the Union; the chance encounter on campus of the man whose lecture the hour before may have had a difficult point — all these are part of the normal life of the small college. The atmosphere seems leisurely compared with that of the larger institution, but through that relaxation itself, life is more contemplative, ideas are more thoughtfully received and considered, and the student or professor, as an individual, perhaps held in higher esteem.

The small liberal arts college and the large technical institute have many differences, but also many things in common. In their differences, each makes its unique contribution; there is no strength in imitation. An institution of higher education is healthy and vigorous only so long as there may be a contrast between its past and its future. The adventure of the

(Concluded on page 170)



Raymond E. Hanson

A view of Brook Farm as it appears today. Except for the wooden sign, there is little to mark these buildings as the center of an unsuccessful experiment in socialized living more than a century ago.

Brook Farm By GORHAM DANA

IN these days of wars and rumors of wars, of political strife, of dishonesty in high places, of greed, theft and murder, of droughts and floods, of fires and of gales, of air and sea disasters, it is well to turn back the pages of history to a time when there was less trouble in the world and more idealism, good will, and co-operation, less worry and more happiness in life. So let us take a glimpse of the conditions in the 1840's.

If you drive from the Institute toward Dedham on the Veterans of Foreign Wars Parkway, you will come to Baker Street in West Roxbury about a mile beyond Hancock Village. If you then turn right, toward Newton, in about half a mile you will come to a group of wooden buildings on the left of the road. A sign, reading "Site of Brook Farm," marks the famous socialistic settlement which was occupied for a few years, beginning in 1840, by a group of outstanding philosophers, writers, liberal ministers, teachers and students—all seeking a new type of society which would give more happiness and security to the human race. It was one of the first of a number of socialistic experimental settlements in America which suddenly sprang up during the Nineteenth Century, but it was not very large nor did it last very long. It was particularly noted, however, for the high type of thinkers and writers that

it attracted; for a century ago, the very elite of society participated in the Brook Farm experiment. In their recent *Pocket History of the United States*, Nevins and Commager state that Brook Farm was "perhaps the nearest thing to a socialistic order that had been known in America since the Mormon Commonwealth in Utah."* The origin of Brook Farm may be traced, in part, to the writings of the socialistic dreamers such as Robert Owen of England (1771-1858) and Charles Fourier of France (1772-1837), in part to the Transcendental Club of Boston, and to the business depression in the United States which started about 1837.

In attempting to comprehend the full significance of the Brook Farm settlement, it will be helpful to recall that the industrial revolution, which had its first repercussions in England, created a new way of life which naturally produced some growing pains as it evolved. With the growth of industrialism, individuals tended to leave their private business pursuits—which were primarily agricultural in character—and became involved in comparatively large-scale operations in which they lost control of the tools of production. Reaction against this new mode of in-

* Allan Nevins and Henry S. Commager, *Pocket History of the United States* (New York: Pocket Books, Inc., 1945).

dustrial life brought forth the first of the modern concepts of socialism. The community or socialistic philosophy of such early leaders as Robert Owen of England, and François Marie Charles Fourier of France, stimulated the establishment of socialized communities in the United States about a century ago. In a few instances, religious beliefs formed an important element in the formation of such socialized communities but in most cases religious beliefs were a minor side issue. Almost universally, the desire to improve man's economic and social status was a major goal of such experimental communities as Brook Farm represented. Almost universally too, it was hoped that the utopian way of life might be achieved through some form of community living in which the individual ownership of property, as well as benefits from the fruits of individual labor, was expected to play, at most, a minor role. In their efforts toward submerging—or at least minimizing—individual initiative and personal reward, the social community experiments which occurred in the United States a little over a century ago ran counter to the theme of rugged individualism that reached its peak in America.

History has a habit of repeating itself. To be sure, variations and elaborations occur so that no two sets of conditions are identical. But history deals with human beings whose fundamental aims, hopes, and aspirations do not change greatly from one continent to another, or from one century to another. Hence, in the light of today's turmoil, it will be interesting and instructive to examine some of the earliest experiments in socialized community living, and to review their successes.

Owenism

Robert Owen, born in Newtown, Montgomeryshire, Wales, in 1771, was a natural born reformer whose socialistic experiments in England, and later in the United States, attracted considerable attention. Influenced by the poor working conditions which he found in English cotton mills, he set out to improve the lot of the working classes by education and by

Another view of the buildings at Brook Farm at the present time. The road shown here is much the same as when it was trod by idealistic planners of a new social order in the mid-Nineteenth Century.

Raymond E. Hanson



instilling the virtues of order, cleanliness, and thrift. At first his efforts were limited to reforms in a factory of which he became manager at the age of 19. As his sphere of activity increased and as he enlarged his philosophy of reform, Owen came to develop some of the earliest tenets of what is now called socialism. He did not make his appeal on the basis of social classes, although only the working classes accepted the leadership he offered.

Since Owen had lost faith in the prevailing forms of religions, it is not surprising that the social philosophy he developed contained elements of moral admonition. Owen believed that man's character is not made by himself, but rather that it is the result of environmental circumstances which are, for the most part, beyond his control. He believed firmly that proper education provided the best means of developing character and of eliminating the want and misery which was often associated with Nineteenth Century working classes. Owen developed the idea that, from early childhood on, human beings should be placed under influences that would develop their moral, physical, mental, and social attributes. He concluded that character could be developed by government, and that crime and misery could be removed by government effort if all united for this purpose.

Armed with such a philosophy and the zealotry of a reformer, Owen recommended the establishment of communities of about 1,200 persons who would live in one large building with public kitchens and mess halls, but would have private living quarters. The communities were to be self-contained, and therefore every essential service should be supplied by a wide variety of employment. The best machinery was to be made available for labor whose activities would center about agriculture. Work, and the benefits of individual toil, were to be shared in common by all in the community; each person was to be fed by all and, in turn, was expected to work for all. Children over four years of age were to be brought up by the community. Many of Owen's ideas have a familiar ring today.

Fourierism

After achieving considerable success initiating educational reforms in factory towns in England, Owen came to the United States to test his socialistic ideas on a larger scale, untrammelled by the restrictions of traditional thinking which he encountered in England. In Indiana, Owen purchased a 30,000-acre tract of land on the Wabash River from Father George Rapp, a religious leader who had set up his own community of German emigrants. Here Owen established a socialistic community which he called New Harmony. After about three years of operation, the community failed and was abandoned. Owen established 10 other settlements in America, including four in Indiana, three in New York, two in Ohio, and one each in Pennsylvania and Tennessee, the total population of which was 1,400. All of Owen's socialistic settlements failed, but their establishment was of importance in leading to the experiment at Brook Farm.

Another early advocate of socialism who influenced thinking of the Brook Farm group was François Marie Charles Fourier, born in Besançon, France, in 1772. Fourier became deeply impressed with the idea that individualism and competition were necessarily imperfect and immoral and ought to be supplanted by co-operation and united effort. His ideas were worked out at great length in a pamphlet which was published anonymously in 1808. In this publication he set forth the idea that the free development of human nature, or the unrestrained indulgence of human passion is the way to happiness and virtue. He believed that society should be reconstructed to do away with unnatural restrictions, and held that a co-operative or united industry and communal living would yield the desired goal.

Fourier advocated the division of society into communities or phalanxes, each containing about 6,000 persons. Each family could have its own private living quarters, but all were to be housed in the phalanx buildings, and rich and poor were to be intermingled locally. Members of the phalanx were to have a certain amount of soil allotted to them for cultivation. Members of the phalanx were to work for the benefit of all in the community; they could change their employment at pleasure and menial tasks would be rendered attractive by adopting proper attitudes. Part of the profits of the phalanx were to be used to furnish each member with the minimum sustenance, and the rest was to be distributed in shares to labor, talent, and capital. Thus, private property was not necessarily to be abolished. Fourier believed in labor-saving machinery, communal kitchens and shops. He believed that the state should organize vast depots for staple products, such as cotton and wool, and that the state or community should take over the functions of middle man as intermediary between producer and consumer.

In his earlier writings, Fourier held that the institution of marriage should be abolished (because it imposes unnatural bonds on human passion) and a system of license was to be substituted for marriage. He felt that other features of family life should be preserved, however. These ideas were dropped in later writings. Fourier's writings were lengthy and his reasoning somewhat obscure, and, by many, were considered to be fantastic nonsense.

Fourier made an unsuccessful attempt to establish a socialistic community in France. The Fourier group was more successful than that of the Owenites in establishing phalanxes in the United States. In all, at least 36 such phalanxes were set up in 34 states, including three in Massachusetts. The larger communities had more than 400 members, and at one time the entire membership of Fourier settlements totaled more than 8,000 persons. But the average life of the Fourier communities was about two years and the longest lasted but six years.

The Depression

Following the War of 1812 there was a good deal of interest in America in the idea of socialistic living. The serious financial depression beginning about 1837 caused great distress, and enhanced thinking



Raymond E. Hanson

Meadows and woods, similar to the contemporary view shown here, were familiar sights to members of the Brook Farm community about a century ago.

along socialistic lines, for many persons had lost their jobs and bank closures were common. Prices increased to such an extent as to cause great worry over the high cost of living. Meetings were held to discuss economic situations, and much thought was given to means which were believed to be effective in reducing living costs. The theories of Owen and Fourier were filtering into the United States, and communal living was being discussed as a palliative for the economic conditions of the times. Might it be possible that the socialistic theory could be a solution to the depression? Is socialism worth trying? These were the questions in the minds of many persons in this trying time. As was destined to happen a century later, many persons were willing to grasp at any means, however unsound, which appeared to provide economic security.

Thus it happened that many settlements other than those of Owen and Fourier, suddenly sprang into being along more or less socialistic lines. At one time, more than 200,000 persons flocked to these settlements which, in a short time, passed away. Except possibly as outgrowths of quite a different kind than were planned by Owen and Fourier, none of the experimental communities is in existence today. None of them produced any substantial influence on the Brook Farm group, which is the only one of these experimental colonies with which we shall be concerned.

Brook Farm

A Boston minister and pastor of the Purchase Street Unitarian Church, the Reverend George Ripley, was the prime mover in organizing Brook Farm. Ripley was a prominent member of the Transcendental Club of Boston whose members followed the German philosophers Kant and Hegel in believing in the supremacy of mind over matter. Moreover Ripley had long had a desire to organize a settlement along socialistic lines. Mrs. Ripley was much in sympathy with her husband's advanced ideas.

(Continued on page 158)

Do the Taxpayers Want Intellectual Eminence?

Don't Blame the Teacher for a Faulty School System.

Environment Conducive to Excellence in Education

Is, Basically, the Taxpayers' Responsibility

By BERTHA S. W. DODGE

No nation faces a problem of greater importance than the proper education of its future citizens. As the bumper crop of postwar babies reaches the primary and secondary schools and matriculates into college, vast expansion of our educational facilities are called for at all levels of instruction. Most important of all, however, is that the quality of education shall not suffer as the quantity is increased. Yet this could happen; indeed, serious inroads have already been made in this direction.

The National Science Foundation reports that "at a time when high school population is rapidly increasing, the number of college graduates completing standard requirements to teach high school science and mathematics has decreased from a high of 9,000 to an estimated 4,000 in science, and from a high of 4,000 to an estimated 2,300 in mathematics between the years 1950 and 1954."

It is clear that the teaching profession has not attracted sufficient numbers of devoted and well-qualified persons into whose hands the education of the nation's children is entrusted. Still, the present trend can be reversed — provided the calling is made sufficiently attractive to those who would choose to enter the teaching profession.

More money — for additional schools and for more and better teachers — is not the only crying need; probably it is not even the most urgent element required to put the nation's little red schoolhouse back in order. What is desperately needed, however — as the personal experiences in the accompanying article testify — is the re-establishment of a school environment, throughout the United States, conducive to high educational standards, and a willingness to tackle this problem at the community level.

I LOOKED down the line of backs bent in an earnest endeavor that even the stifling June heat could not abate. "All accounted for," I told myself as I checked over the class list. Yes, all accounted for, but not all present. Tommy Earle would not be taking any of his final examinations this June. He lay in our County hospital undergoing treatment for severe burns he had recently received in the chemistry laboratory where, according to his almost inviolable custom, he had deliberately disobeyed orders, helped himself to forbidden materials, and mixed them according to that diabolical knowledge that even the poorest chemistry student seems to have no difficulty in mastering. Fortunately Tommy, whose misfortune had long been overdue, had lost no more than skin which grafting would eventually replace. Fate was kinder to him than to a more recent student who had blown his hand off in the same school — but, thank God! under another teacher.

And then, as I put down the class list, I saw her — a great rawboned woman filling the doorway in so bellicose a posture that instinct warned me who she was.

"I'm Mrs. Earle," she announced angrily, "I've come to get Tommy's things."

Instinct further warned me that she had come to do no such thing, but I tried to convey to her the

idea that I would be glad to help after the examination was finished.

"... and now that I'm here," she interposed loudly, "I want to tell you what I think of you as a teacher."

So I stood there while the youngsters before me cringed visibly and listened to a noisy tirade such as, it slowly dawned upon me, teachers must often steel themselves to hear. I was, I gathered, a bad teacher not because she had noted (as well she might had she been better informed) large gaps in her son's learning but because, despite my every effort to circumvent him, Tommy had finally been successful in burning himself badly.

"We pay high taxes in this city," she concluded angrily, "High taxes! And we expect good teachers!"

I, too, was angry — not so much at the epithets she had heaped on me as at the idea that relatively defenseless teachers must frequently be exposed to such a scene. For I was only a substitute, called in to cover an emergency when the regular teacher had departed summarily for military service. It was beginning to dawn on me why he had not sought deferment. I was quite new at the game, and very indignant.

"And now Mrs. Earle," I countered icily, "that you have finished telling me what you think of me as a

teacher, let me tell you what I think of you as a mother — to bring up a son incapable of obedience.”

“But that’s your business,” she replied in accents of utter sincerity, “to make him obey — that’s what we hire teachers for.”

It left me speechless. It still leaves me speechless. For what Mrs. Earle in her outspoken anger had proclaimed — what I as a teacher had listened to — is what, I now realize, innumerable teachers in innumerable schools across our country have to face, by word or by implication, day after day.

Quite literally that was my baptism of fire. As the passing years brought less pressing preoccupation with domestic affairs, an increasing awareness of and interest in educational problems, combined with a master’s degree from M.I.T., have made of me a sort of free-lance teacher of science. Only a resolute refusal to meet state requirements in courses in education has made me relatively immune to requests to accept full-time employment as a science teacher in one or another of the secondary schools within easy access of the place in which I live. It is hardly the Mrs. Earles of this world that have kept me — as they keep any number of well-trained people — from filling the crying need for teachers; any teacher can cope with a dozen or more Mrs. Earles, in a suitable environment. General conditions, built up through

the last few decades, have made the Mrs. Earles the noisily indignant, self-assured adversaries they now are. These general conditions, where high standards of education, ethics, and culture have given way to an easy-going philosophy in which all things are reduced to the same level, cannot be coped with by the individual teacher.

The Mrs. Earle incident, just described, occurred in one of the best high schools, if not the very best high school of the state; one whose certification of graduates is accepted by all colleges. The school is in a relatively prosperous and highly taxed community. But that cry — “We pay high taxes!” — which in my pristine innocence seemed completely irrelevant is repeated in all communities, large or small. With that cry, outraged mothers progress from teacher to principal to superintendent and, finally, to the school board members who are all too conscious of their dependence on popular vote.

And how are such complaints dealt with? Not long ago one of my young neighbors, who is an enthusiastic teacher of mathematics in a remote suburb, was approached by his superintendent. The teacher was requested to raise the grades, worked out with so much thought, so that there would be no failures in his class. The reason? An impending school board election.



Harold M. Lambert

Many modern high schools have physical plants whose buildings and facilities rival — or outdo — those of colleges. Yet for all their egregious splendors, modern high schools too frequently operate in an environment that fails to emphasize excellence in education.

A few years ago, it was my privilege to witness the conference between the school superintendent of another, smaller suburb and the indignant mother of a notorious problem child who had received a failing grade in English. I was there in a sort of semiofficial capacity because I had agreed to help the superintendent get his books in order. So he turned to me and asked me to get Billy's folder.

"Ah, yes," he murmured as he perused it sadly, "Billy hasn't been a distinguished student but up to now he hasn't failed in anything. Miss Nelson is the first to give him a failing grade. She's new here you know. We get the best we can, Mrs. Smith, with what funds we have. But if Billy had the *right* teacher, there would be no problem at all—he'd *want* to study—why you'd have to tear him from his books."

Mrs. Smith smiled happily as the experienced hypocrite assured her of her son's great potentialities. Even in the brief glimpses I had had of the intransigent Billy I knew these potentialities could never exist. Because I was personally acquainted with the teacher in question, I was able to get her side of the story, without breaking any confidences.

"There's so much talk of increasing teachers' salaries," she exclaimed one day in a moment of black discouragement, "and God knows there is need for this. But it's not money alone that makes me think of trying something else. I want to *teach*. If only I could teach without having to spend all my time keeping order among students who have not the slightest desire to learn, I'd be glad for the experience I could get in even so small a place as Hilldale. I'd look to the rewards later. It's *not* the money."

What is true in the teaching of English is even more important in subjects for which laboratory work is an essential part of the instruction. No salaries that any school board is likely to dream up will make a good teacher of one who lacks enthusiasm both for his subject and for imparting it to younger eager minds. Nor will any salary, no matter how large, compensate such a teacher for being hampered in his teaching. Denied an opportunity to teach, a teacher well trained in science can easily obtain lucrative employment in industry. I fear we shall soon find ourselves up against the paradox that the better college students are trained for teaching science in secondary schools, the fewer good science teachers will be found in those schools. For only those too old to change their means of livelihood and the inferior younger ones—those who find no cause for rebellion against the conditions under which they must work—can continue indefinitely in a profession which is fast losing its dynamic appeal.

It is not difficult for one who has been around in a variety of schools, and has even had some experience teaching college freshmen, to name a number of reasons why this is so. From personal experience alone, it would be very hard indeed to rate these reasons in order of absolute importance; it is quite impossible to claim that none had been overlooked. But high on the list and encompassing most of the others is the question of discipline.

It is all very well to say that a good teacher can maintain discipline. In all but the rarest cases she can—if that is to be her main function. Granted a

fair smattering of not-too-reluctant students and a shrewd instinct for which offenses to notice, and which to ignore, a teacher can maintain a reasonable semblance of order. When faced with a notoriously difficult situation, I myself have done just this. But I did not teach at the same time. And when I rebelled against the restraint that was more irritating to me than to the students and tried to teach, I came smack up against one of those Billy Smiths who had no desire to learn anything himself and was determined that no one else should better his record. He admitted he did not want to be in school, that he was only marking time until he was old enough to get into the Army or find a job in industry—which, incidentally, he was counting upon his high school diploma to facilitate. That document, I gathered, was to come as a reward for enduring four years of boredom.

Most of his obnoxious activities were not quite serious enough to involve the principal who, I knew, would resent being consulted on anything less than a major offense. Finally when something serious came up and I sent the offender to the principal's office, he left my room grinning broadly, and returned a quarter-hour later grinning even more broadly. I realized at once that he had had a pleasant little discussion of his personality and, by innuendo at least, my own.

The next time I sent a pupil to the principal, I put teeth in my directions. This particular lad murmured some especially insulting and obscene epithet in such a conversational tone that, for an instant, I doubted my ears. Most of his classmates, I also noted, were too preoccupied with other matters to have grasped the full import of his words. Only his slyly triumphant grin convinced me that I had heard aright; evidently he expected to provoke me to underline his comments with a prompt and public rebuke.

"You will please take this note to the principal," I murmured in a conversational tone to match his own, adding, as the lad stood up, "and take your books. You're *not coming back*."

To his everlasting surprise, he did not come back. For I alone of all the teachers in that school was in a position to state categorically, "Either he goes or I do!" I was a substitute teacher and so without a contract whose breaking would damn me forever in this state, and possibly in all others as well.

In the problems with which I had to deal, I was no different from the other teachers. Observation and conversation told me that, as a substitute teacher, I might find my problems more immediately acute than the others but that all of them were conscious of struggling against the same handicaps. No—not quite the same. For my subject was a laboratory science and how can one even hope to conduct successful laboratory periods if, as soon as one's back is turned, some Tommy Earle is slyly setting aside enough of his reagents to prepare an interesting little batch of gunpowder, a few match heads to be left on a neighbor's porch, some pleasantly noisy nitrogen iodide or maybe just innocently secreting a few cubic centimeters of the taxpayers' concentrated nitric and sulphuric acids—to be combined later with some glycerin easily purchased in the corner drugstore? I

(Continued on page 152)

THE INSTITUTE GAZETTE

PREPARED IN COLLABORATION WITH THE TECHNOLOGY NEWS SERVICE

Stever Becomes Associate Dean

H. GUYFORD STEVER, chief scientist of the Air Force, has been appointed associate dean of the Institute's School of Engineering. James R. Killian, Jr., '26, President, announced in December. Dr. Stever has also been promoted from associate professor to professor of aeronautical engineering.

Dr. Stever has been on leave from M.I.T. since last February, when he went to Washington for one year as chief scientist, in which capacity he serves as adviser to the Chief of Staff and the Secretaries of the Air Force. His leave has been extended and he will return to M.I.T. in June. In making this announcement President Killian said:

In his new capacity, Dr. Stever will participate with C. Richard Soderberg, '20, Dean of the School of Engineering, in the leadership of the school and he will also continue as a professor, part time in the Department of Aeronautical Engineering. He has made numerous and important contributions to the field of aeronautics, both in relation to supersonic aerodynamics and electronic guidance problems.

Born in Corning, N.Y., in 1916, Dr. Stever received his A.B. degree from Colgate University in 1938 and his Ph.D. in 1941 from California Institute of Technology, where he did significant research on cosmic rays and electronics for Geiger counter experiments.

After receiving his doctorate, Dr. Stever came to M.I.T. as a member of the staff of the Radiation Laboratory, where he rose rapidly to a position of responsibility in the development of radar. From 1942 to 1945 he was scientific liaison officer in London representing the National Defense Research Committee in work on radar and guided missiles. Dr. Stever returned to the Faculty of M.I.T. after World War II, becoming an assistant professor of aeronautical engineering in 1946 and associate professor in 1951.

M.I.T. Photo



◀ H. Guyford Stever . . .

now on leave of absence and serving as Chief Scientist of the Air Force, will return to M.I.T. in June to assume the new post of Associate Dean of the School of Engineering.

Joseph W. Barker, '16 . . . ▶

President of the Research Corporation, and recently elected President of the American Society of Mechanical Engineers, will be dinner speaker at the M.I.T. Regional Conference in St. Louis on February 4. President Killian and members of the Institute's Faculty will also speak.

"Canticle of Freedom"

COMMISSIONED by the Institute to be written for the dedication of the Kresge Auditorium, the "Canticle of Freedom" — Aaron Copland's piece for orchestra and chorus — had its first New York performance at Carnegie Hall on November 10. Leonard Bernstein conducted the Symphony of the Air, which is the successor to the National Broadcasting Company orchestra, at which Mr. Copland's work was performed.

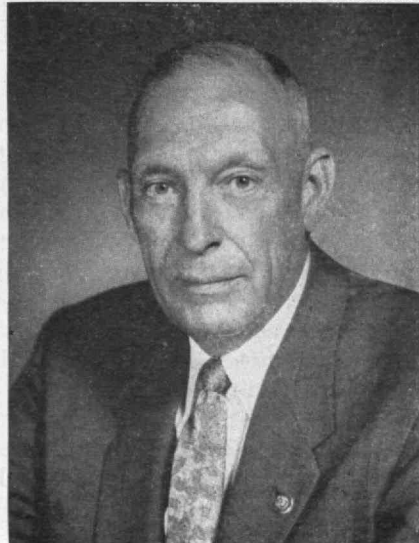
Writing in the *New York Times* for Friday, November 11, 1955, under the heading "Music: Premiere of Copland Work," Howard Taubman recalled that the piece was commissioned by M.I.T., "an institution that knows the relationship between science and the humanities," and commented that the "Canticle of Freedom" has a portentous, ceremonial opening, which is fine to show off instrumental virtuosity. Then it goes on to the substance, which is agreeable in content and skillful in working out."

Coming Events

TECHNOLOGY flavored meetings which Alumni will wish to attend include: the Boston Midwinter Meeting to be held at Walker Memorial on Wednesday, February 1; the Midwest Regional Meeting to be held at the Missouri Athletic Club in St. Louis on Saturday, February 4; and a West Coast Regional Meeting to be held at the Ambassador Hotel in Los Angeles on Saturday, March 17. Members of the M.I.T. staff will discuss current events at the Institute.

Additional information for the St. Louis Conference is available from Robert J. Joyce, '28, 802 Chestnut Street, St. Louis 1, Mo. For the West Coast Conference, William H. MacCallum, '24, 880 Winthrop Road, San Marino, Calif., can supply information to those who wish to attend.

Fabian Bachrach





M.I.T. Photo

In the Schell Room on the fourth floor of Sloan Building, Mr. Sloan discusses the function of the School of Industrial Management with students and Faculty members of the School.

Students Interview A. P. Sloan

ALFRED P. SLOAN, JR., '95, chairman of the Board and former President of the General Motors Corporation, held an interview with students and Faculty members of the School of Industrial Management in the Sloan Building on November 30. Mr. Sloan was introduced to the meeting by E. P. Brooks, '17, Dean, following introductory remarks by Paul B. Readett, Jr., President of the Graduate Management Society.

Answering questions of a student panel, Mr. Sloan gave his views on the unique function that the School of Industrial Management is providing in training future leaders of industry. He also spoke on the interrelationship of the university, industry, and the community—drawing on his experiences with General Motors Corporation for the purposes of illustration. The chief problem of industries today, Mr. Sloan felt, is that of keeping ahead of competitors. He cited the case of changes in automobile models which the General Motors Corporation makes each year in order to meet competition and best suit the tastes of the consumer.

In dealing with the questions on the part played by an educational institution in training young men, Mr. Sloan emphasized that the greatest contribution could be made by teaching students to think for themselves, and to analyze accurately problems that arise in their lives. He went on to explain that such facility would serve a young person well no matter what career was chosen. Following the interview, Mr. Sloan met members of the Faculty, as well as graduate students of the School of Industrial Management at a reception held in the Schell Room.

Mr. Sloan's visit to the School was sponsored by the Graduate Management Society and M.I.T. Management Association. It was part of the organizations' monthly program of meetings with outstanding leaders of industry.

Repetitive Roster

REGISTRATION figures at the Institute climbed to a high of 5,648 (including graduate students) in the fall of 1955 when 948 freshmen registered in the Class of 1959. As of October 24, the total for freshmen and upperclassmen was 3,657; then the Graduate School enrollment increased the figure to the 5,600 mark which was the highest since 1947-1948 when veteran registration was heavy.

Participating in the traditional Freshman Week End activities were 34 first-year students whose fathers are Alumni of M.I.T. To this group perhaps orientation in the ways of the Institute was made somewhat easier because of familiarity gathered through family experience. Listed below are the sons (and one daughter) of Alumni enrolled in the Institute's Freshman Class:

| Student | Parent |
|---------------------------|---------------------------|
| Michael E. Ash | Maurice L. Ash, Jr., '26 |
| Bradford Bates | Philip K. Bates, '24 |
| Marc Brown | Abraham Brown, '24 |
| Thomas S. Budlong | Mortimer C. Budlong, '28 |
| Charles S. Coffey | Timothy P. Coffey, '32 |
| Peter E. Coffey | Timothy P. Coffey, '32 |
| David L. Coleman | Albert F. Coleman, '31 |
| Henry R. Couch, Jr. | Henry R. Couch, '20 |
| Robert W. Grass | Albert M. Grass, '34 |
| Carol J. Greenough | Russell F. Greenough, '22 |
| Edward C. Haines, Jr. | Edward C. Haines, '24 |
| Charles W. Harper, Jr. | Charles W. Harper, '33 |
| Joseph Hartshorne | Edward Hartshorne, '28 |
| William McC. Hawkins | John C. Hawkins, '34 |
| Gardner W. Hicks, Jr. | Gardner W. Hicks, '33 |
| Edwin B. Hooper, Jr. | Edwin B. Hooper, '40 |
| Lester C. Hopton, Jr. | Lester C. Hopton, '26 |
| Michael D. Intriligator | Allan Intriligator, '30 |
| David P. Keane | Edward C. Keane, '22 |
| Thomas M. Kimball | Robert M. Kimball, '33 |
| George S. Lewis | Davis D. Lewis, '31 |
| Richard C. Lyons | Charles E. Lyons, '28 |
| William M. Marcus | Richard J. Marcus, '32 |
| George A. Morton, Jr. | George A. Morton, '26 |
| David J. Paul | Samuel Paul, '35 |
| Henry M. Peskin | Leonard C. Peskin, '29 |
| Philip M. Richardson, Jr. | Philip M. Richardson, '26 |
| William A. Ross | Herbert F. Ross, '32 |
| Gustave M. Solomons, Jr. | Gustave M. Solomons, '28 |
| Charles O. Staples | Elton Staples, '26 |
| David B. Tuttle | Thomas W. Tuttle, '25 |
| Donald B. Vaughan | Donald G. Vaughan, '25 |
| Robert A. Williamson, Jr. | Robert A. Williamson, '26 |
| Stewart W. Wilson | Richard MacC. Wilson, '30 |

On Personnel and Jet Aircraft

PRESIDENT DWIGHT C. ARNOLD, '27, opened the 313th meeting of the Alumni Council held at the Faculty Club on the evening of Monday, November 28, attended by 136 members and guests. Following approval of the minutes of the meeting of October 31, Theodore T. Miller, '22, chairman of the Alumni Fund Board, reported that 3,342 Alumni had contributed a total of \$95,000 to this year's Fund. These early figures represent 36 per cent of the total number of contributors, and 40 per cent of the total amount contributed to the 1954 Alumni Fund.

As Secretary of the Association, Donald P. Severance, '38, reported that seven visits to local clubs by as many different members of the Institute's staff had been made between November 3 and November 18. In addition to Donald W. Kitchin, '19, and D. Reid Weedon, Jr., '41, who had previously been named chairman and deputy chairman, respectively, the Executive Committee has nominated the following subcommittee chairmen for Alumni Day, 1956; *Registration*: Wolcott A. Hokanson, staff; *Conference*: Egon E. Kattwinkel, '23; *Special Invitations*: Philip A. Stoddard, '40; *Luncheon*: John P. Larkin, '26; *Banquet*: Oscar H. Horovitz, '22; *Ladies*: Mrs. Joseph J. Snyder; and *Gifts and Prizes*: David W. Skinner, '23. The Secretary also reported briefly on plans for two Regional Conferences.

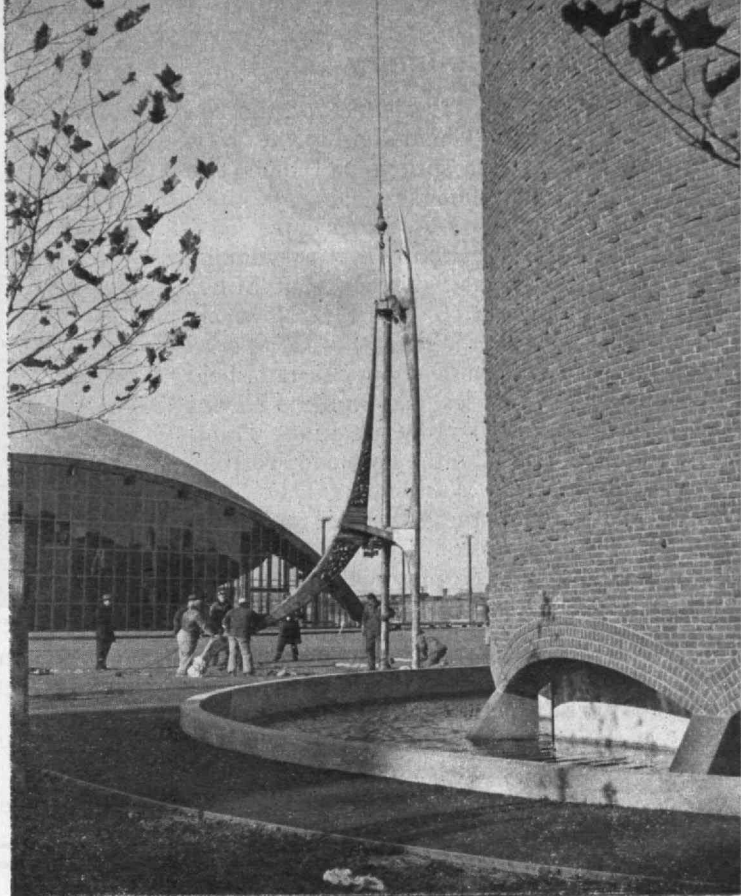
Chenery Salmon, '26, chairman of the Midwinter Meeting Committee, announced that, in order to avoid conflict with the St. Louis Conference, the date for the Boston Midwinter Meeting had been changed to Wednesday, February 1. Following a steak dinner a panel of Technology Faculty members, with John E. Burchard, '23, Dean of the School of Humanities and Social Studies, as moderator will take part in the program at Walker Memorial.

Vincent T. Estabrook, '36, chairman of the Boston Luncheon Club Committee, invited Council members to the regular meetings at the Olde Oyster House, 41 Union Street, Boston.

Following the business portion of the meeting, Council members heard Albert F. Sise, Personnel Officer at M.I.T., speak on "The Changing Requirements of Personnel Administration at M.I.T." and William R. Hawthorne, '39, Hunsaker Professor of Aeronautical Engineering, speak on "Power Against Gravity."

Mr. Sise outlined the growth of the Institute's employee personnel and the problems which this growth has introduced. In the past 15 years, the number of M.I.T. employees has increased from 1,300 to 6,500, of which 2,000 are represented by four different unions. These people are engaged in a wide variety of work, and often come into contact with employees of other organizations where working conditions differ somewhat from those at the Institute. The need for the Institute to become better acquainted with the thinking of its employees and, in turn, to acquaint its employees with some of its problems and objectives was clearly brought out.

In a talk illustrated with slides, Dr. Hawthorne discussed the development of aircraft powered by gas turbines, whose great advantage is their comparatively low weight. Turbines consume large quantities of fuel, however, and efforts are being made to reduce fuel consumption for a given performance. This can be done by increasing the pressure ratio, and by increasing the operating temperature. He discussed the use of jets in helicopters with ram jets operating at the tip of helicopter blades and with a central gas turbine engine whose output is piped through the rotor so that the jet streams leave the propeller blade much as water spray leaves the conventional lawn sprinkler. New power plants permit vertical take-off and landing of air-borne vehicles, and undoubtedly will open up new modes and speeds of air travel.

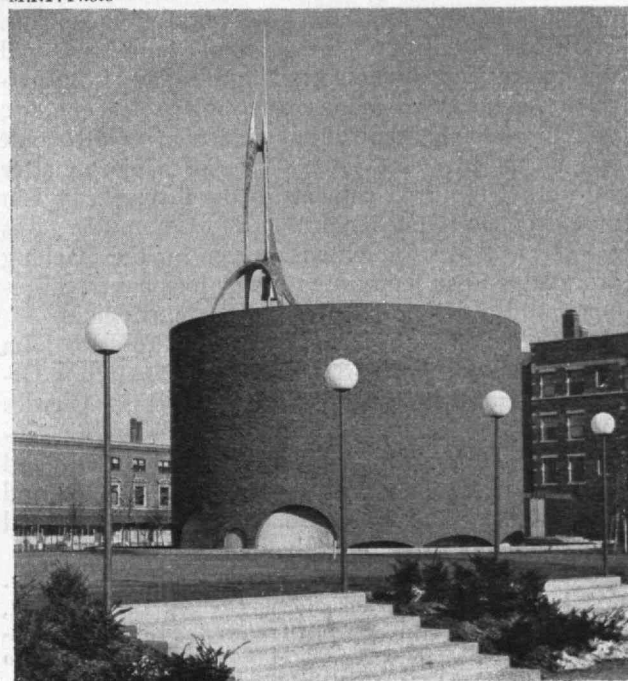


M.I.T. Photo

An all-aluminum structure 45 feet high and put together by means of bolts and welded joints was erected atop the M.I.T. Chapel in mid-November. The bell tower and spire, shown in the two illustrations on this page, was designed by Theodore J. Roszak of New York.

According to Mr. Roszak, the notion of verticality, which is the dominant note in the over-all emphasis of the tower, expresses spiritual aspiration. The three vertical members symbolize the three denominations that share the common edifice. The frontal arch will contain the bell which was cast in the M.I.T. Metals Processing Laboratory and is now undergoing final tests.

M.I.T. Photo



Sailing Summary

WHEN M.I.T. sailors won the National Championship at New London last spring, and their two top-point winners — Alain J. de Berc, '55, and Fred A. Brooks, Jr., '55 — were graduated, Tech's winning streak seemed doomed. But M.I.T. Commodore J. Nicholas Newman, '56, and H. William Stiles, '57, placed second in the Danmark Regatta held on the Charles, and won the Nevins Memorial Trophy at Kings Point, N.Y., and later the Potomac Frostbite Regatta at Washington, D.C. They also won the Oberg Trophy for Greater Boston Championship and the Fowle Trophy in the New England Racing Championship.

Moreover, the freshman squad became freshman champions of New England, which was equal cause for satisfaction among the sailors.

Sailors de Berc, Newman, and Stiles visited England and Ireland last summer as members of a combined North American University Team. The



Donald M. Fellows

American team had 19 matches, and won 15, but lost the most important match for the British-American Trophy by a close margin. In England, the group participated in the famous yachting event, Cowes Week, and entered three boats in the International Five-O-Five Class.

Chemical Abstracts

TWENTY Faculty members of the Department of Chemistry met with members of the Department's Visiting Committee at the Institute on March 6, 1955, for a review of the Department's activities.* During the past year, Walter H. Stockmayer, '35, Professor of Physical Chemistry, David N. Hume, and C. Gardner Swain, Associate Professors of Chemistry, were on leave of absence for study in Europe. In their absence, courses in First Year Chemistry, Third Year Physical Chemistry, and Advanced Organic Chemistry have been given by younger members of the Department — Carl W. Garland, Frederick D. Greene, 2d, and John S. Waugh, Assistant Professors of Chemistry. The Committee found these reports interesting and stimulating and discussed at length many of the suggestions which were made concerning subject content, student interest and attitude (particularly on the part of nonchemists), and interrelation of subject matter with other required subjects in the first year and in the chemistry curriculum. The Committee was pleased to find so much enthusiasm for the teaching program, and so many suggestions for changes offering promise of improvement in the curriculum.

The Committee heard reports from Professor John C. Sheehan on "Some Impressions of Research in Organic Chemistry Abroad" and from Professor Charles D. Coryell on "Some Impressions on Research in Nuclear Chemistry Abroad." Professors Sheehan and Coryell were on leave of absence in 1953-1954 and had the opportunity to visit many foreign educational institutions and research laboratories.

* Members of this Committee for 1954-1955 were: Crawford H. Greenewalt, '22, chairman, Godfrey L. Cabot, '81, Edwin D. Ryer, '20, Robert L. Hershey, '23, Eger V. Murphree, '23, John C. Kirkwood, '29, M. Gilbert Burford, William M. Holaday, and Paul L. Salzberg.

It was encouraging to note that while the number of advanced undergraduates majoring in chemistry both at the Institute and throughout the country in 1954-1955 was small, a comparatively large number of first-year students at M.I.T. have indicated that they intend to major in chemistry.

The Committee discussed at some length changes which are to be made in the First Year Chemistry course in 1955-1956 as a result of a study made by a departmental committee, and the pros and cons of offering instruction in different kinds of elementary chemistry or separate sections for chemists and nonchemists. It was generally agreed that the best policy was to offer a single fundamental and rigorous course such as is now being given, with a special optional section for those who are particularly interested in advanced work.

There was a discussion of the financial problems of students in the Graduate School, of the National Science Foundation, and National Institutes of Health programs, industrial fellowships in Chemistry and their use, grants-in-aid for research, and educational advantages of teaching and research assistantships; also the needs for funds to encourage fundamental research or long-range grants to promising young men (of the rank of instructor or assistant professor) interested in academic careers.

The Committee endorsed the policy of the Department in emphasizing creative thinking and research at both the undergraduate and graduate level, and noted that the diversity of research interests of its staff members was a source of strength in the Department.

The Committee's report was considered by the M.I.T. Corporation at its meeting on June 10, 1955, and by the Executive Committee of the Institute on October 21. The report was received for publication in *The Review* on November 8.

BUSINESS IN MOTION

To our Colleagues in American Business ...

Copper tube is used for hot and cold water lines, radiant panel heating, drainage lines, and to carry fuel or lubricants in automobiles and machine tools. Those are some of the conventional applications. However, during the last few years a new market has developed for this tube. You might like to hear about it. It is in pneumatic or hydraulic recording and control systems. One end of the tube is located at the point where temperature or pressure must be observed, and the other end is connected with a dial, a recording device, or an automatic controller. The tube may be filled with air, an inert gas such as nitrogen, or a fluid. The tube has the great advantage that it carries no electricity, and thus can be installed in places where a spark might cause an explosion, as in a plant handling combustible gases or chemicals.

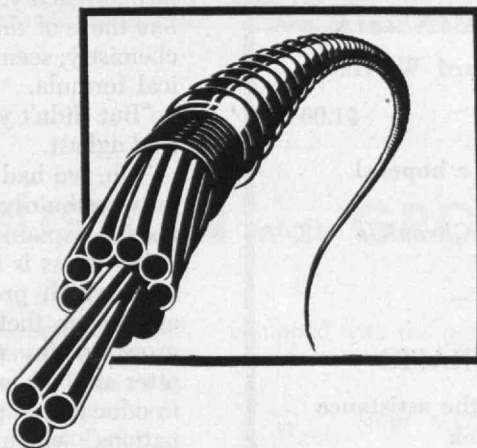
Originally the idea of using copper tube for this purpose was carried out by running separate lengths of bare tube from the originating points to the panel board. This meant considerable care in installation, and it was also necessary to run the tube where it would not be subject to mechanical damage, or to protect it otherwise. Then a new development appeared: cabled tube. A way was found to put as many as 19 quarter-inch copper tubes in a single armored cable, so that instead of rigging 19 separate runs of tube, just one cable is run, the tubes being fanned out at each end as required. Installation time is cut markedly, and the armor provides self-protection. Cable runs as long as 1,000 feet are possible without joints. The tubes are color-coded.

Just to give you an idea of the usefulness of tubes in cables, here are a few of the applications in the

plant of just one public utility: boiler temperatures, main and reheat steam pressure, boiler feed and condensate pump pressure, condensate temperature, fuel oil and gas pressures, liquid levels, tide level, boiler drum water level, control of fuel feed, draft dampers, and numerous other controls.

This is a fast-growing use for copper tube, and while it will not match the demand for tube in commercial structures and private homes, nevertheless it is an important subject for industry and instrumentation engineers. In fact, a couple of years ago we thought that cabled tube had enough news interest to justify running an advertisement about it. Revere does not make cabled tube, but a Revere customer does, so we reported the matter as a service to industry. Mail began to arrive immediately, asking for further information. It is still pouring in, as the result of a second advertisement on the subject, appearing less than a year ago. American business certainly watches the advertisements for news it can use.

This is an example of imagination applied to a product that literally is as old as the pyramids. We have said in the past that "copper is the metal of invention," because it is so adaptable to man's genius. But there are many other materials, not merely metals, but such substances as glass, wood, plastics, fabrics and fibres, that also respond to an inspired touch. Why not get in touch with your suppliers, and let them know your problems? Perhaps they can arrive at a new way to use an old product, or even develop something new to solve an old problem. Just let it be known what you need, and watch people respond!



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INTELLECTUAL EMINENCE

(Continued from page 146)

put the question to the reader but I make no attempt to answer it.

An easy solution would be to exclude an obviously undisciplined Tommy from class before he can accumulate the ingredients of one of his lethal concoctions. But Tommy's parents — remember — pay high taxes. Tommy's personality might also be warped by being denied access to the class. If Tommy wants to take chemistry, isn't that what his parents are paying high taxes for? Of course the *right* teacher would be able to handle him. Why the lad has been crazy about chemistry ever since Uncle Job gave him a chemistry set way back when. . . . So Tommy ends up in a hospital bed. He will recover. The lad who blew his hand off lost — alas! — more than his hand. For he was a gifted violinist with a probable future on the concert stage. What, I ask, has that accident done to *his* personality?

Well-Integrated Mediocrity

Worst of all, what is this tragic situation doing to generations of willing students who come out of high school with backgrounds that become more and more meager each year? Their parents are taxpayers too — like those of the girl who, after a year of high school chemistry, seemed unable to grasp the simplest chemical formula.

"But didn't you learn that in high school?" I queried aghast.

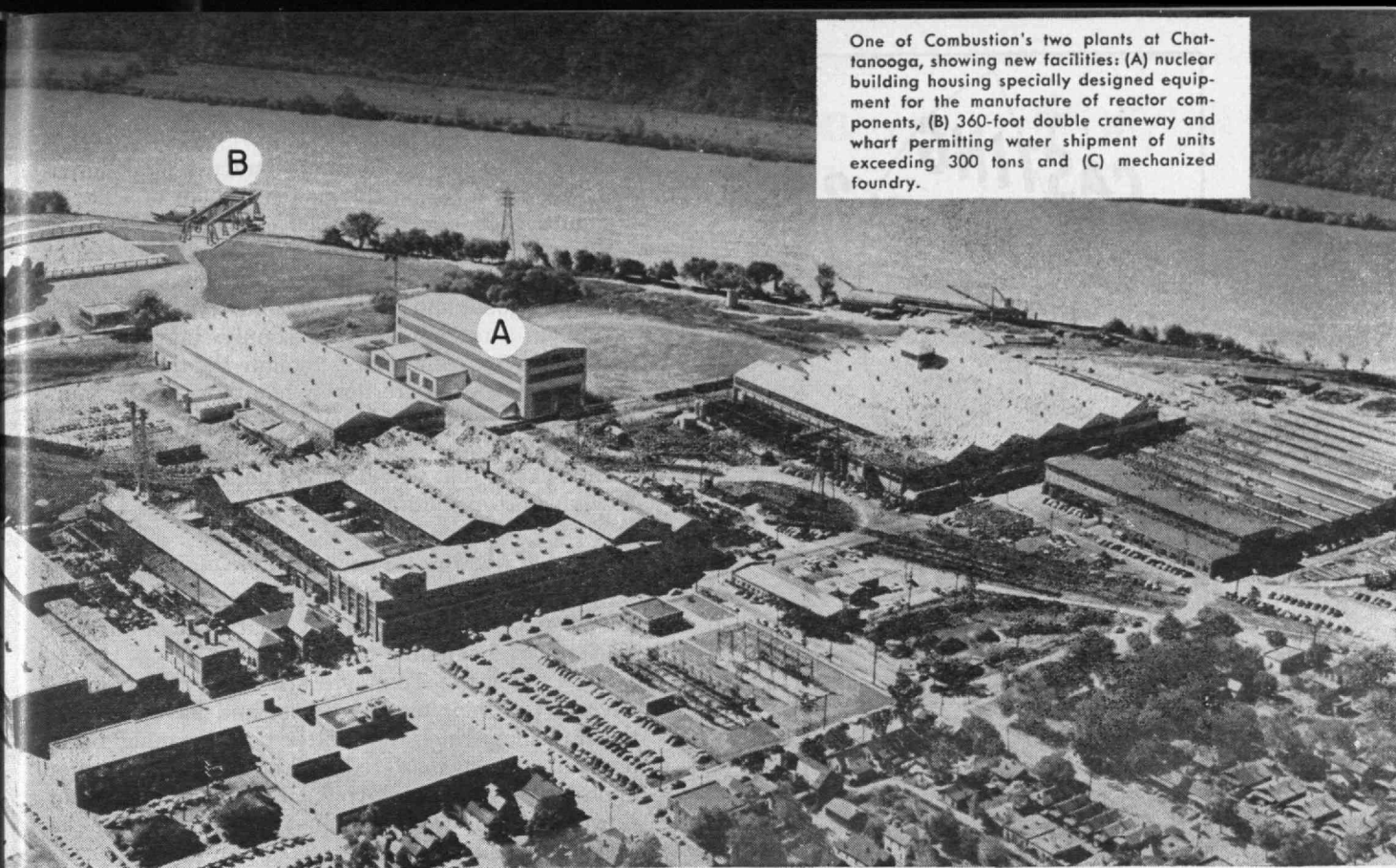
"Oh, we had a vitalized course in chemistry," she answered airily. What vitalized chemistry is, she was able to explain no more than I.

My guess is that it is just another of those clichés with which present-day educators fill their speech and cover their inadequacy. Youngsters don't just grow up any more — they go through one "phase" after another, all of which are listed and catalogued in educational psychologies. Social problems are "situations" which must be handled so as to produce "well-integrated" personalities. It's a fascinating language and probably describes phenomena as well as any other. What I take exception to is the attitude that by naming a phenomenon you have solved the problem which may be inherent in it. Such an attitude is more likely to complicate than to solve educational problems.

Assume, now, that a science teacher has managed to maintain perfect discipline in class, has managed to impart considerable information to a large percentage of his students, and has even managed to make failing grades stick where they belong. Assume moreover that he has found adequate means for dealing summarily with the Mrs. Earles who are ever ready to pounce. Can he relax? Not at all.

A teacher's time is rarely his own. Though he, or she, may have had an exhausting day between laboratory preparations, instruction in both classroom and laboratory, and faces the evening with a pile of papers that, if his instruction is to be effective, should be gone over carefully, he will still be expected to

(Continued on page 154)



One of Combustion's two plants at Chattanooga, showing new facilities: (A) nuclear building housing specially designed equipment for the manufacture of reactor components, (B) 360-foot double crane way and wharf permitting water shipment of units exceeding 300 tons and (C) mechanized foundry.

Again in 1955

the word for **COMBUSTION** was **GROWTH**

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NEW NUCLEAR FACILITIES

In addition to the new facilities depicted above, Combustion is currently building a Nuclear Engineering and Development Center on a 500-acre tract recently acquired at Windsor, Connecticut. This center will comprise an Administration Building, Critical Facility, Chemical and Metallurgical Laboratories and buildings equipped for the fabrication and assembly of atomic fuel elements. When this program is accomplished about a year from now, Combustion will have the exceptional advantage of being

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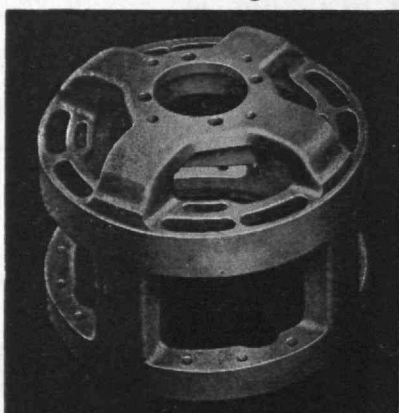
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INTELLECTUAL EMINENCE

(Continued from page 152)

participate in any number of extracurricular activities. He will serve on this or that school or citizen's committee, conduct a science club, perhaps coach some sport, maybe continue with some adult education project at night. Any one of these activities would be good, and quite sufficient. The total of demands on a teacher's time is simply staggering. No one seems to realize that though the hours when school is in session are fewer than those of the average taxpayer's business day, the strain is infinitely greater. Yet the teacher daily works at his trade a total of hours that would make the average taxpayer howl against exploitation.

Why Don't Teachers Complain?

"Why doesn't the teacher also howl?" someone will ask. That, unfortunately is just what some of our best teachers are beginning to ask too.

Even after the Tommy Earles and Billy Smiths have served their time at school and have received the diplomas which, no matter how meaningless in terms of subjects mastered, will enable them to enter upon the kind of employment they think they want — even then the teacher cannot rest quietly. For the diploma over which the teachers now have so little control is regarded as a sort of commitment on the teacher's part.

Thus, as Tommy continues to follow his cheerful path of irresponsibility, the teacher again takes the blame. Tommy, of course, has developed no self-discipline, intellectual or otherwise. Whose fault but the teacher's? Tommy rarely took a school book home to study, never did assigned outside reading, frequently absented himself from school without serious parental reproof. So if Tommy cannot read with true comprehension, cannot spell properly, cannot write an acceptable letter, cannot use a dictionary, whose fault but the teacher's? It is so easy to place the blame on "progressive" education, but is not progressive education what the "progressive" taxpayers wanted?

The teacher knows only too well that today's high school students are capable of learning for they seem to be reasonably well informed in areas where their interests lie. The Tommys and Billys can talk all too glibly of hot rods, but try and make them master the use of the simplest algebraic formula in mechanics!

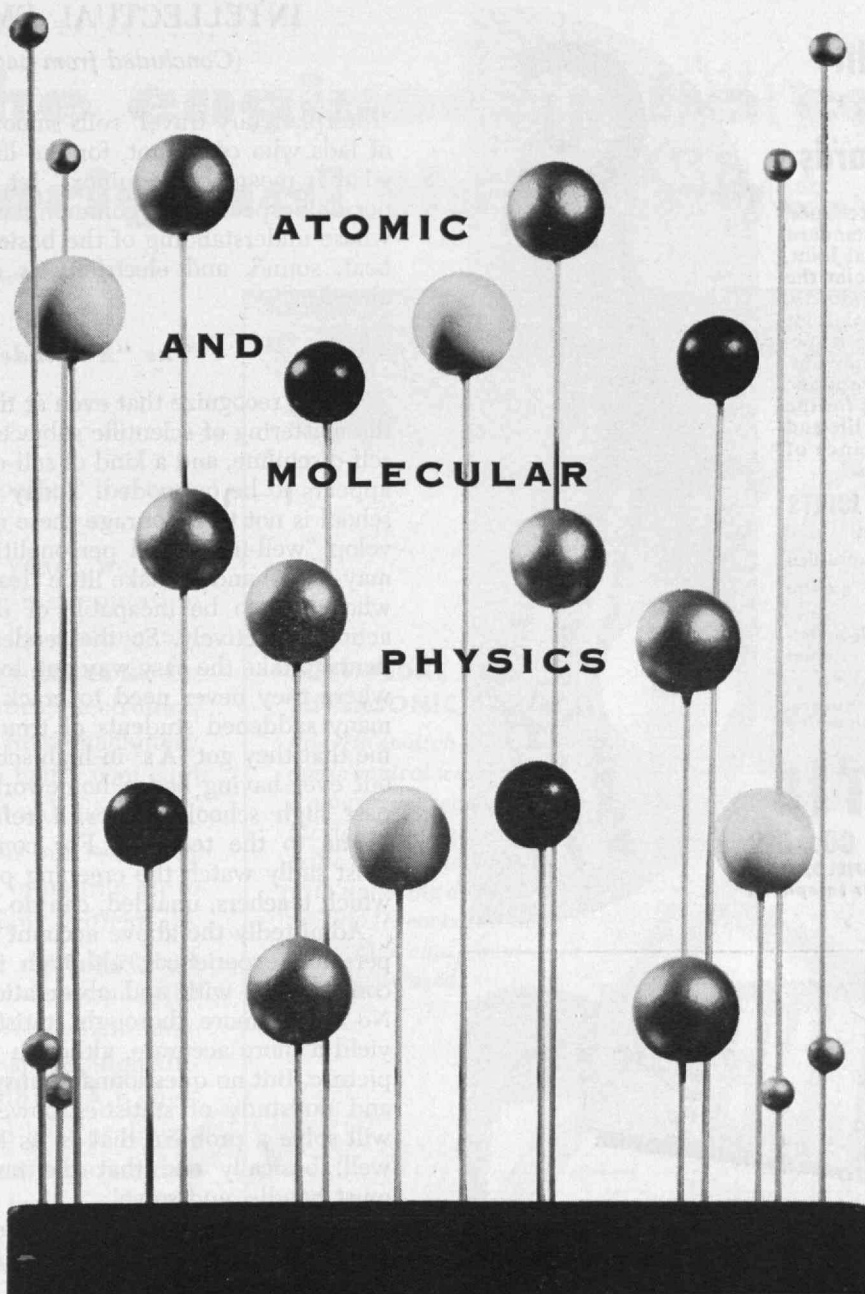
(Concluded on page 156)

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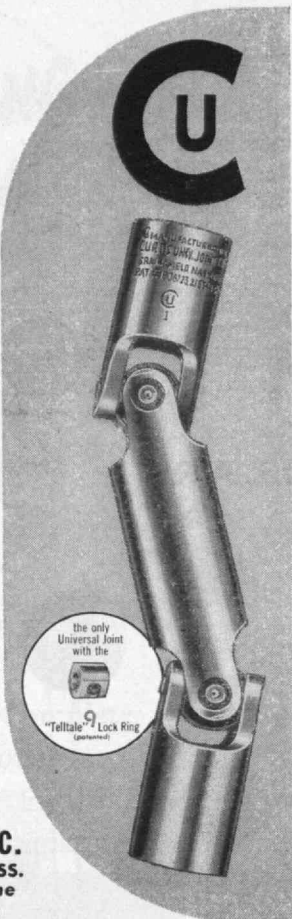
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INTELLECTUAL EMINENCE

(Concluded from page 154)

"Interplanetary travel" rolls smoothly off the tongues of lads who could not, for the life of them, explain what is meant by "equinox." Jet propulsion and supersonic speeds are commonplace to these youths whose understanding of the basic principles of light, heat, sound, and electricity is conspicuous by its absence.

The "A" Student

We all recognize that even at the elementary level, the mastering of scientific subjects means hard work, self-discipline, and a kind of self-dedication that now appears to be outmoded. Today the function of the school is not to encourage these qualities, but to develop "well-integrated personalities" (whatever that may mean) and to make little "leaders" of youngsters who seem to be incapable of directing their own actions effectively. So the tendency grows for students to take the easy way out, to study snap courses where they never need to crack a book — and how many saddened students of trigonometry have told me that they got "A's" in high school geometry without ever having had a homework assignment! As a past high school teacher, I refuse to impute the blame to the teachers. For conscientious teachers must sadly watch the creeping paralysis of learning which teachers, unaided, can do little to cure.

Admittedly the above account is based on limited personal experiences, although it is bulwarked by conversation with and observation of many others. No doubt more thorough statistical studies would yield a more accurate, although not very divergent, picture. But no questionnaire answered by educators and no study of statistics however comprehensive will solve a problem that is, as Mrs. Earle knew so well, basically one that the taxpayers themselves must handle, and solve!

If the taxpayers want good education for their youngsters they must be better informed as to just what constitutes good education. A nation which has so great a stake in its scientific personnel as the United States cannot afford to leave the education of its young people to chance. Somehow taxpayers must learn where their responsibility meets that of the teachers. They must demand of the schools not only good teachers — and most present teachers could be far better than they are, given half a chance to teach — but also a school environment conducive to high educational standards. I do not refer to the schools' physical plants which, often, are far finer than many a college has to offer, but rather to the spirit of the community, particularly with respect to its attitude on intellectual discipline.

As the taxpayers clamor, the ever sensitive school boards must respond. So, also, will school principals and local superintendents and, eventually, the remoter state and county superintendents. But the taxpayers must want, must be able to recognize and know enough to demand, the kind of education our young people should have if our nation is not to lose its intellectual eminence.



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BROOK FARM

(Continued from page 143)

She was a brilliant speaker, a clever writer, and the daughter of Francis Dana of Cambridge, a former attorney general of Massachusetts.

The Ripley family spent the summer of 1840 at the farm in West Roxbury, owned by Charles and Maria Ellis. They found it to be a very pleasant farm, with a successful milk business, located near the Charles River about three miles north of Dedham. A brook flowed in front of the farmhouse and emptied into the Charles River. The soil was not very rich and had a substratum of sand and gravel but there was an abundance of grass, well suited for a dairy farm. It seemed to be a very good site for Ripley's cherished settlement. He talked over his plans with Ralph Waldo Emerson and other friends and they decided that \$50,000 should suffice for the project, of which \$30,000 should supply land and buildings for 10 families. They proposed to raise the required sum by forming a joint stock company, the shares of which would be secured by a mortgage on the real estate. Shares were to be priced at \$500 each and to bear interest at 5 per cent.

In the winter of 1840-1841, Mr. Ripley decided to buy the farm and be responsible for its management. He paid \$10,500 for the farm containing 170 acres. The following were elected trustees: George Ripley; William B. Allen, a young farmer from Vermont; Nathaniel Hawthorne, the well-known novelist; and

Charles A. Dana, a young Harvard student who first achieved fame as editor of the *New York Tribune*, and the *New York Sun*, and later became Assistant-Secretary of War under Stanton, and adviser to Lincoln and Grant during the Civil War.

In April, 1841, the Ripley family, Mrs. Pratt and their children, Hawthorne, Bradford, Burton, and a few others took possession of the property, to be joined shortly by Mr. Pratt and Charles Dana. It was decided to set up the new settlement as a co-operative venture in which the members should unite in manual labor and be recompensed for actual work accomplished. The settlement was not planned as an Owen or Fourier organization.

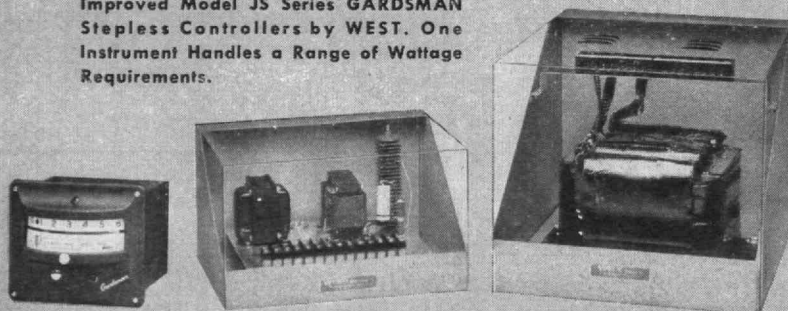
An Association called the Brook Farm Institute of Agriculture and Education was finally formed. Articles of Association were drawn up and officers elected. The signers of the Articles, in addition to the Ripley family, were the Reverend George P. Bradford, Harvard 1825, a son of Gamaliel Bradford of Duxbury; Warren Burton, Harvard 1821, a minister who had served in East Cambridge, Hingham, and Waltham; Minot Pratt, who had been a successful printer in Boston, and Maria J. Pratt; Nathaniel Hawthorne, the novelist; the Reverend and Mrs. Samuel D. Robbins (who although writing for Brook Farm publications were never active in the settlement); David Mack (who later started the settlement at Northampton); George C. Leach, an abolitionist; Lemuel Capen; and the above-mentioned Charles A. Dana, who was destined to take a very prominent part in the development of Brook Farm.

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Dana was the first secretary and chairman of the Finance Committee. He was born in Hinsdale, N. H., in 1819, of the sixth generation from Jacob, one of the four sons of the original Richard who immigrated from England to Cambridge in 1650. His father, who was a very conservative Congregationalist, was not well off and could not afford to send his brilliant son to college. However, by much sacrifice Charles worked his way through Harvard, but not with the approval of his father who, when he learned that his son had been attending some Unitarian services with Harvard classmates, wrote him, "Ponder well the paths of thy feet lest they lead down to the very gates of hell."

Dana was delayed in graduating by severe eye strain, and in August, 1841, applied to Brook Farm for membership with the ideas of resting his eyes, meeting desirable people, and living economically. He was duly admitted and became very popular. He always retained a strong interest in Brook Farm after he became famous, and referred to his association with its members as very stimulating. It was there that he met Horace Greeley, an occasional visitor, who gave him such a successful introduction to the New York newspaper fraternity.

Finances and Management

Shares of the new Association were priced at \$500 and were to bear 5 per cent interest. The owner of each share was entitled to the tuition of one pupil

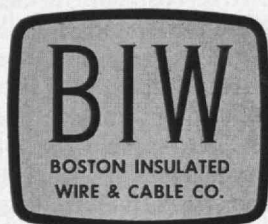
in the Brook Farm school in lieu of interest, if he so desired. Other interest was to be paid in the form of new shares. Original purchasers of shares, and the amount of their holdings, were as follows:

| <i>Name</i> | <i>Number of Shares</i> |
|---------------------|-------------------------|
| George Ripley | 3 |
| Sophia Ripley | 2 |
| Marianne Ripley | 3 |
| Minot Pratt | 3 |
| Maria T. Pratt | 2 |
| William Allen | 3 |
| Charles A. Dana | 3 |
| Nathaniel Hawthorne | 2 |
| Sarah F. Stearns | 2 |
| Charles Whittemore | 1 |

Unfortunately, only about one third of the total sum for these 24 shares was actually paid for at the beginning, and it was a long time before the remainder was collected.

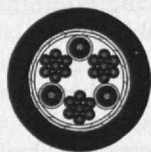
Title to the farm was passed on October 11, 1841, the same day on which Ripley, Hawthorne, Dana, and Allen, as trustees, placed a first mortgage of \$6,000 on the property with Daniel Wilder and Josiah Quincy, commissioners of the sinking fund of the Western Railroad Corporation. A second mortgage of \$5,000 was placed with George R. Russell, Henry P. Sturgis, Francis G. Shaw, and Lucy Cabot.

(Continued on page 160)

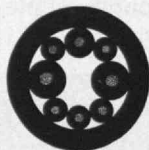


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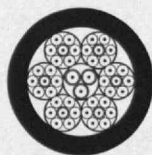
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The School

From the first, educational activities were an important part of Brook Farm objectives, and the school was quickly organized. It was highly successful too, largely as the result of careful planning, the high standing of the teachers, and the unusual character of the students.

The school was divided into three departments: an infant school over which Georgiana Bruce Kirby and Miss Abby Morton presided; a primary department for which Marianne Ripley was responsible; and a six-year college preparatory course. George Ripley taught mathematics and philosophy; Mrs. Ripley, history and modern languages; Charles Dana, Greek and German; John S. Dwight, Latin and music; Anna B. Ripley, drawing; Amelia Russell, dancing; George P. Bradford, belles-lettres; and Orestes A. Brownson, agriculture.

The school was run on very unconventional principles, with no set study hours and with great freedom of intercourse between students and teachers, all of whom joined in the festivities of the group. Students were urged to study for the purpose of learning things of real value and interest, and to create the passion to become well educated. Practically all subjects were elective.

During the brief period of its existence, the school brought together a large number of young people who injected much amusement and hearty pleasure into the group. These included Francies C. Barlow (later a general), George A. Wells (later a colonel), the brothers George William Curtis and Burrill Curtis, the two sons of George Bancroft, James M. Fuller (brother of Margaret Fuller), two popular boys from Manila—Lucas Corrales and Jose Corrales—and several from Havana, Florida, and Cambridge.

The study periods were interspersed with practical instruction and manual labor, with the boys engaging in agriculture, milking, shoemaking, printing, hoeing, wood chopping, and sash and blind making, and the girls in housekeeping, cooking, and kitchen and laundry work. In the evening various entertainments such as cardplaying, music in charge of Dwight Newcomb, and talks by Margaret Fuller and others became popular forms of diversions. Dances, plays, and masquerades gave the young people an opportunity to show their ingenuity.

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Young George William Curtis was a leader in these activities. Dressed as Hamlet, he led a quadrille with beautiful Carrie Shaw who was dressed as a Greek girl. As the melancholy Dane he was perfect in a black-plumed head covering, a glittering rapier, and his melancholy eyes. The Curtis brothers were great favorites and were spoken of as young Greek gods. Thomas Wentworth Higginson, who was sympathetic with the Brook Farm idea, wrote in his *Cheerful Yesterdays*, "Into this summer life there occasionally came delegations of youth from Brook Farm, including the Curtis brothers and Charles A. Dana, dressed in agreeable but peculiar costumes—a kind of hunter's frock of gray-colored chintz belted at the waist and with little round visorless caps with tassels, exquisitely unfitted for the hornyhanded tillers of the soil."† The costume of the women was usually short skirts or knickerbockers, broad-brimmed hats, and flowing hair.

Hawthorne's early novel, *Blithedale Romance*, was based on his experiences at Brook Farm, and there was much discussion by the members as to which of them was the original of certain of his characters.

The sources of income for the Farm were the board of the members, the school tuitions, and the sale of milk and other products of the Farm. The sale of milk did not continue long because as the settlement grew, the boarders needed the entire output. The sale of other farm products never brought in what was expected, as the soil was such as to yield only limited crops. Then, too, many of the members did not prove to be very good farmers. The school, however, was a very successful source of income, and the manufacture of sashes and blinds was also successful.

In the course of time Brook Farm became a very popular place for visitors. All sorts of people were liable to drop in to see friends or find out how the experiment was working. They were hospitably received, offered free meals, and often spent the night. This finally became a heavy drain on the finances of the Association, for in one year there were 4,000 visitors. So it became necessary to make a small charge for those who stayed for meals or overnight.

Switch to Fourierism

For a while the experiment at Brook Farm showed promise. True enough, the property was heavily
(Continued on page 162)

† Boston: Houghton Mifflin and Company, 1898.



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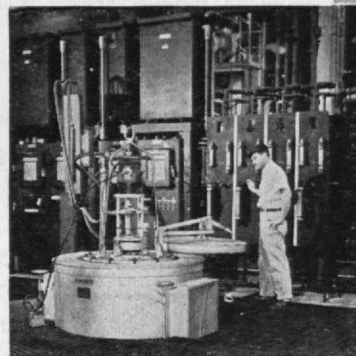
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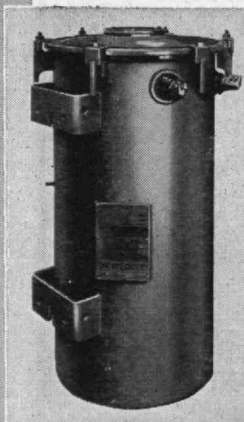
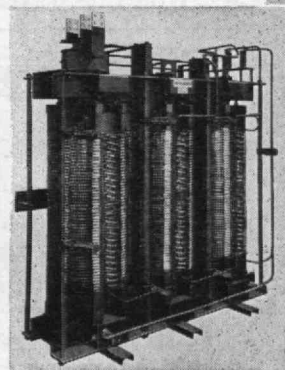
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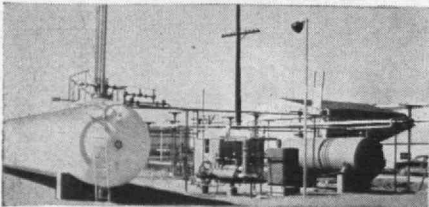
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BROOK FARM

(Continued from page 161)

mortgaged, and in the early years, financial reports showed annual deficits. But the report for the year 1844 showed a balance of \$1,160.84. The school was going well. There was harmony and enthusiasm among the Brook Farmers who found health and inspiration in a new way of life in which physical labor, wholesome amusement, intellectual stimulation, and respect for one's fellow man were all happily blended. The Brook Farm community was widely and favorably known, and applications for membership augured well for future growth. But a change came.

Even when written by those who personally took part in the experiment, accounts of Brook Farm do not clearly give reasons for the cause of the change. A clue may be found, however, in an article published in *The Dial* for January, 1844, which states that Brook Farm ". . . is not a community; it is not truly an association; it is merely an aggregation of persons, and lacks the oneness of spirit which is probably useful to make it of deep and lasting value to mankind. It seems, after three years' continuance, uncertain whether it is to be resolved more into an educational or an industrial institution, or into one combined of both."

Might the popularity of the associative movement itself have contributed to the change that took place at Brook Farm? John Thomas Codman, who had spent two and one half pleasant years at Brook Farm, has commented: "Brook Farm was in an exceptionally good position when the associative movement broke out, like a fever, all over the country. It was a new organization. It had started two or three years before the rest. It had fixed itself in the minds of the thinking part of the community as a gathering of able, upright, conscientious men and women."†

At any rate, after a few years of operation, the time came when the affairs of Brook Farm were in a serious condition and were not improving. Many of the former members had left for various reasons and only six of the original stockholders remained. By 1844 the group numbered 70 residents of which 30 were pupils. There was a good deal of dissatisfaction, and definite plans for the future were earnestly discussed. Should the school be made the principal feature in the settlement? Should the mechanical industries be given more prominence, or was the farm life to be made the main goal?

The leaders were busy studying Fourier's theories which were being vigorously set forth by Albert Brisbane, Park Goodwin, and Horace Greeley in the *New York Times*. Fourier's ideas that industry could be made attractive by organized labor, and that higher standards of work could be achieved were certainly interesting. So were his ideas that there was a sublime destiny for man on this planet; and that all the instincts of our nature, when not subverted by bad

(Continued on page 164)

† John Thomas Codman, *Brook Farm — Historic and Personal Memoirs* (Boston: Arena Publishing Company, 1894).

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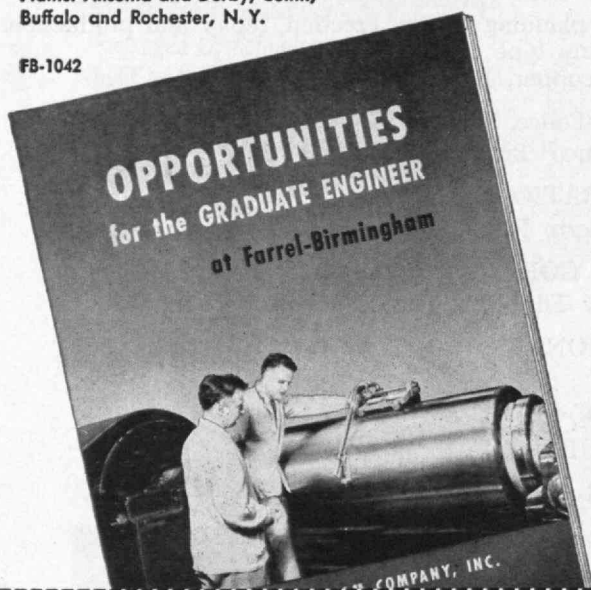
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BROOK FARM

(Continued from page 162)

conditions, point toward that destiny. Labor is the underdog, and it is the unnatural relation of capital and labor that makes the worker what he is, argued the followers of Fourier. Brook Farmers did not favor communism but felt that the laborer personally owned the value of his labor and by mutual consent this might be retained, invested, and added to the labor stock. This they found agreed with Fourier's theories. They also agreed with his ideas of making industry attractive and that the attractions of life are in proportion to the destinies they assist in accomplishing.

So in January, 1844, the directors—consisting of George Ripley, Minot Pratt, and Charles A. Dana,—reported to the members that they proposed a radical and universal reform rather than an effort to redress any particular wrong or to remove the sufferings of any single class of human beings. They asked for the generous and helpful co-operation of all classes for sympathy, encouragement, and aid so that human life shall be developed not in discord and misery but in harmony and joy. Thus did Brook Farm become a phalanx in the Fourier organization.

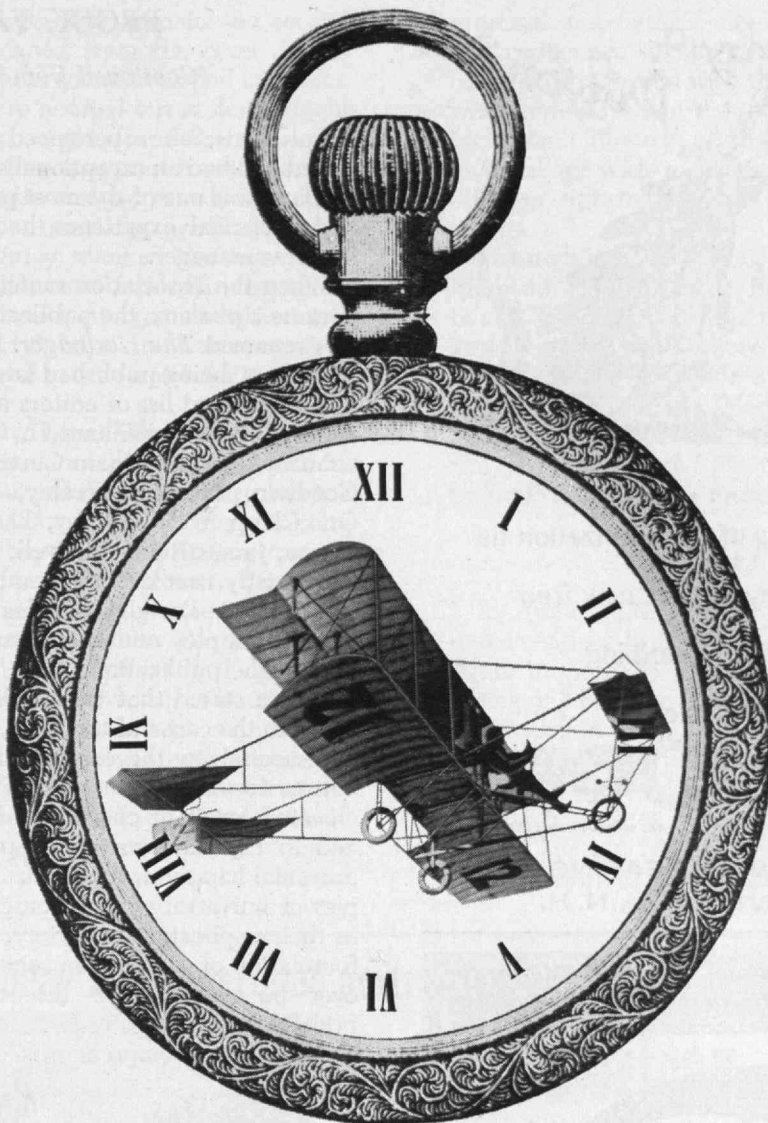
The Fourier system which was set up required that everything be arranged in groups and series. A group consisted of three or more individuals combining for some object; and three or more groups made a series. For instance, a farming series consisted of a cattle group, a plowing group, a nursery group (having to do with young trees), and a planting group which took care of planting, hoeing, weeding, and haying, according to season. The mechanical series covered shoemaking, carpentering, and blindmaking which were not seasonal. The domestic series covered consistency, dormitory, and kitchen groups. There was also an independent series of teachers, a commercial group, and the sacred legion which did exceptionally disagreeable work from a sense of duty. Each group had a chief who kept a record of the work done by each member.

The change produced a mechanical arrangement which tended to make the members automatons—without much deference to their varied talents, characters, or capabilities. Members however, were, given certain freedoms in selecting their jobs and changing them when desired. In theory the set-up seemed attractive, but in actual development it proved complicated and required a large amount of paper work.

Magazines

The Brook Farm groups were strong believers in publishing a newspaper or magazine, not only to keep their members well informed on the local news and plans of the future but also to serve as propaganda for the purpose of attracting new members. The first magazine, called *The Dial*, was started soon after the Association was formed, and published at the Brook Farm printing plant which was headed by

(Continued on page 166)



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BROOK FARM

(Continued from page 164)

Minot Pratt, an experienced printer. It was well edited and had an exceptional staff of writers. Charles A. Dana was one of the most prominent, and because of his clerical experience he became an unofficial business manager.

When the Association switched to Fourierism and became a phalanx, the publication was continued but was renamed *The Harbinger*. It continued for about four years, being published later in New York. It had a distinguished list of editors and writers, including: Albert Brisbane, William H. Channing, Christopher Cranch, George William Curtis, George Foster, Park Goodwin, Horace Greeley, Osborne MacDaniel, Otis Clapp, W. W. Storey, Thomas Wentworth Higginson, James Russell Lowell, and John G. Whittier. The strictly Brook Farm members were George Ripley, John S. Dwight, Charles A. Dana, and L. K. Rykman. Ripley and Dana wrote most of the editorials in the publication.

It was stated that the publication would be "devoted to the cause of a radical, organic, social reform as essential to the highest development of man's nature to the production of those beautiful and elevated forms of character of which he is capable, and to the diffusion of happiness, excellence, and universal happiness on earth." Moreover, "the principles of universal unity as taught by Charles Fourier in their application to society, we believe, are at the foundation of all genuine social progress, and it will ever be our aim to discuss and defend these principles without any sectarian bigotry and in the catholic and comprehensive spirit of their great discoverer."

The Fire

In 1844 work was started on a large new building, called the Phalanstery, that would house and care for some 150 members and solve the problem of crowded quarters that prevented further growth of the settlement. The Phalanstery was to be a three-story wooden building 175 feet long. It was to contain 100 rooms and have 14 independent houses, each with a parlor and three sleeping rooms. On the lower floor was a large kitchen and dining room holding 400 persons. Upstairs was a chapel (where it was hoped that the Reverend William Henry Channing would preach) and a number of meeting rooms and parlors of smaller size. The estimated cost was about \$7,000. Work had continued on the building for two years, as fast as money was collected for the purpose.

In March, 1846, the work was about three-quarters finished. On a Monday evening there was a lively dance in progress in the building known as The Hive. On the previous Saturday the carpenters had installed a stove in the Phalanstery, which they had not worked on during the winter, in order to dry it out and make it comfortable to work in. Did they notice a slight crack in the chimney? Apparently not.

A watchman visited the building about 8:30 and reported everything in proper condition. About 15

minutes later a faint light was seen in the second story. A spark had escaped from the crack in the chimney. The building was soon enveloped in flames. The dancers nearby were notified but at first thought it a joke. An alarm was sounded and fire apparatus from Boston arrived before long, but it was too late. The huge structure could not be saved. The fond hopes of the faithful Associates were suddenly shattered. President Ripley thanked the brave firemen and gave them coffee and food. He also spoke words of cheer to the discouraged members and stated that with cheerful hope he was sure they would be able to continue and do much for the cause they all loved.

Unfortunately his brave hopes were never realized. Conditions did not improve in spite of hard work by the members. The burning of the Phalanstery was too heavy a blow for any easy recovery. In that building centered most of the hopes of the little group. It would have allowed for a large increase in the membership and been a considerable source of income. No insurance had been placed on the unfinished building, and the total loss of \$7,000 fell upon the Association. The organization was already at a low ebb financially and this was the last straw. New members were greatly needed and it was almost impossible to get any under present conditions. Instead, the members began to leave. First was Peter Baldwin (nicknamed the General) one of the best loved and most efficient of the workers. He was soon followed by Minot Pratt, one of the original group and a very

practical and faithful member who had the respect and confidence of all. Many of the other members became dissatisfied with the outlook and were somewhat in doubt about the soundness of the theory that high-grade literary people could work indefinitely in harmony with mechanics and artisans of a very different upbringing and with different ideals and talents.

Meanwhile a New York group led by Dana and Brisbane had started a branch settlement at Red Bank, N.J. This was near the great markets of New York and had much more productive soil than did Brook Farm. They made a strong effort to have the Brook Farmers leave West Roxbury and join their settlement. At this time the California gold fever was just starting and its influence was strongly felt by some of the Brook Farm members.

Sale of Property

By August, 1847, matters had reached such a crisis that President Ripley was authorized to transfer the entire property to a board of three outsiders — consisting of Theodore Parker, George Russell, and Samuel Teele. In 1849 it was sold to John C. Plummer for \$19,000, to be used by the Roxbury Alms House. In 1855 it was sold to the Reverend James Freeman Clark who in turn sold it to Mrs. James W. Monroe. A little later, in 1870, it was sold to the present owners, the Lutheran Association, for Works of Mercy.

(Concluded on page 168)

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BROOK FARM

(Concluded from page 167)

The members gradually drifted away, most of them to their former jobs. George Ripley lost his fortune in the Brook Farm experiment and left it a poor man. He and his wife went to live in Flatbush, N.Y., and continued to work for *The Harbinger* for awhile. He also did some work for the *Tribune* which brought him only \$4.00 to \$5.00 a week. Later he found more remunerative jobs, including that of associate editor of the *New American Cyclopaedia*. His wife was fairly successful in finding students for her lessons in French and Italian.

Ripley had promised to be responsible for the debts of Brook Farm, and after years of economy and careful saving he was able to pay off the last of the Association's debts. He died in 1880.

Conclusions

By those who had taken part in the experiment, the decline of Brook Farm was cause for regret but not for admission of failure. Whatever feelings the experiment might have generated in its participants, Brook Farm can hardly lay claim to success when examined by objective, dispassionate eyes. Yet in many respects it possessed almost ideal qualifications for a successful socialistic venture.

The members of the Association — and especially the leaders — were highly intellectual, well-educated persons of considerable integrity. They were imbued with the soundness of their ideas, and willing to make sacrifices to see their objectives fulfilled. They were a congenial, harmonious group who evidently derived much satisfaction from their community

mode of life and close associations with one another.

To what, then, is the failure of Brook Farm to be attributed? Financial worries were a constant plague; there was never enough capital, the business ventures undertaken were not very profitable, and income from new members did not come up to expectations. In addition, the crowded conditions of the dormitories prevented acceptance of sufficient numbers of new members as might have overcome financial troubles. It has also been charged that many of the leaders were too much interested in the literary side of the work, and that they lost the keen interest they initially had in the project. Perhaps all these things are true.

But what is to be said of the dozens of other socialistic settlements of that period which lasted but a short time — mostly not more than six or seven years at most? Do the same criticisms apply or must we search for more subtle, more fundamental reasons for their failure? Did not the Pilgrims who first landed at Plymouth find it imperative to give up a communal form of government after but a year's trial? Are the socialistic and communistic communities of today any more successful than their ancestors? Do they not appear to succeed solely by application of terrorism, intimidation, and force? In a world of human beings is it normal — indeed, is it possible — to achieve a higher and more desirable way of life by removing incentives toward individual advancement? Can progress come by trying to level all mankind to a given norm; by fostering conformity and stifling individualism?

These are questions to which the reader must supply his own answers. But the experiment of Brook Farm — and of the many similar communities that have also fallen by the wayside — seems to point a moral.



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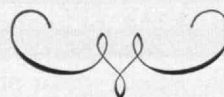
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(Concluded from page 140)

future depends upon the excitement of this contrast. You recognize with me that we can solve the problem of raising the sticky, day-coach window by designing an air-conditioned train, but we suffer in that we have yet to solve the more difficult problems, such as the adequate distribution of the world's food supply — the avoidance of rotting surpluses in one country, while another starves. We have achieved remarkable success in earning a living and providing an easier life, without having learned what we are living for, nor how we should live.

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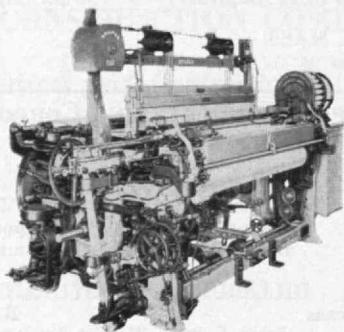
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Alumni AND Officers IN THE News

New Presidents

JOSEPH W. BARKER'16, Chairman and President of the Research Corporation, New York City, has been elected to serve as next president of the American Society of Mechanical Engineers. Mr. Barker took office in November. Mr. Barker's career has been in education. He has been an associate professor at M.I.T., head of the electrical engineering department at Lehigh University, and dean of engineering at Columbia University. During the 2nd World War, Mr. Barker served as a special assistant to the Secretary of the Navy, being responsible for all naval education and training policy, including the V-12 College training program. He is also president of the Society of Sigma Xi.

HARLAND C. FORBES'23, has been elected president of Consolidated Edison Company of New York, Inc. As system engineer and later vice-president, Mr. Forbes was primarily responsible for the coordination of Consolidated Edison's gas, electric and steam engineering and for long-range planning.

Appointments

NORMAN L. WEISS'23, milling engineer at Salt Lake City for American Smelting and Refining Company, it was recently announced by the American Institute of Mining and Metallurgical Engineers, has been elected chairman of the Minerals Beneficiation Division for 1956, and ex-officio director of the Institute.

JOHN B. RUSSELL'28, formerly professor of Electrical Engineering at Columbia University in New York, has been appointed full-time consultant by the electronics division of General Electric Company in Syracuse, N. Y.

Awards

KENNETH S. M. DAVIDSON'19, is the recipient of the sixteenth award of the David W. Taylor Medal for "notable achievement" in the field of naval architecture. The medal was presented by the Society of Naval Architects and Marine Engineers.

LT. COL. TURNER W. GILMAN'34, has been named one of 19 Harvard students to receive Baker Scholarships. The designation Baker Scholar originated in 1939, to honor men with the highest scholastic achievement in the school. It is bestowed each year on the top five percent of the second-year men.

Honors

H. S. OSBORNE'08, has been decorated by the Government of Sweden as "Knight of the Royal Order of Vasa, First Class," in recognition of his services in assisting

the Swedish Department of Telecommunications. The ceremony took place in Stockholm. Dr. Osborne is a past president of the International Electrotechnical Commission, and past president of the American Institute of Electrical Engineers.

The USS FORREST SHERMAN, a submarine fighting destroyer, has been commissioned at the Boston Naval Shipyard and is named in honor of the late FORREST SHERMAN'19.

ALBERT G. H. DIETZ'32, Professor of Building Engineering and Construction at M.I.T. has been elected to the Phi Beta Kappa Associates. This organization is limited to 200 people active at one time. They must be members of Phi Beta Kappa.

ALI BULENT CAMEL'46, authority on gas dynamics at Northwestern University, has received a Fellow Membership in the American Rocket Society. Dr. Camel, an associate professor of mechanical engineering in charge of Northwestern's Gas Dynamics Laboratory, was honored at the 25th Anniversary meeting of A.R.S. A native of Turkey, Dr. Camel was educated at Robert College and the University of Istanbul there. He received his S.B. from M.I.T.

Books

FRANCIS WESTON SEARS'20, is the co-author of a textbook entitled *University Physics* published by Addison-Wesley.

JAMES L. CLIFFORD'25 examines the life of Dr. Johnson from a new angle in his work *Young Sam Johnson*, published by McGraw-Hill Book Company, Inc.

C. S. DRAPER'26, W. MCKAY'34 and S. LEES'48 have written the third volume of *Applications of the Instrument Engineering Method*, published by McGraw-Hill Book Company, Inc.

NORMAN LEVINSON'33, Professor of Mathematics at M.I.T., is co-author of *Theory of Ordinary Differential Equations*, published by McGraw-Hill Book Company, Inc.

STANLEY ABKOWITZ'48, also takes the honors in co-authorship with his new book *Titanium in Industry*, published by D. Van Nostrand.

WILLIAM N. LOCKE, Head of the Department of Modern Languages at the Institute has edited fourteen essays entitled *Machine Translation of Languages*, published by John Wiley and Sons, Inc.

PAUL A. SAMUELSON, Professor of Economics; R. L. BISHOP, Associate Professor of Economics; and JOHN R. COLEMAN, Assistant Professor of Industrial Relations, all of M.I.T., are the authors of the text in economics called *Readings in Economics* now in its second edition, pub-

lished by McGraw-Hill Book Company, Inc.

JOHN C. SLATER, Professor of Physics and former Head of the Department of Physics at the Institute has authored another work, this one dwelling on the development of physics from 1900 to the present time is entitled *Modern Physics*, published by McGraw-Hill Book Company, Inc.

WAYNE B. NOTTINGHAM, Professor of Physics at M.I.T., and his staff at the Laboratory of Electronics have prepared a new book entitled *Bibliography on Physical Electrons* which is being published by the Addison-Wesley Publishing Company, Inc.

Obituary

ALBERT W. IASIGI'80, date unknown
EDWARD R. WAIT'91, Aug. 14°
SALMON W. WILDER'91, October 24°
ALDEN P. MARSH'92, June°
LEONARD B. BUCHANAN'93, November 9°
PARKER KEMBLE'95, May 24°
RICHARD H. RICH'95, September 18°
HERMAN VON HOLST'96, October 17°
HENRY H. KIMBALL'96, 1946°
HENRY A. WATERMAN'96, October 25°
ARTHUR HAMILTON'99, March 20°
JOSEPH PHILBRICK'01, August°
F. D. ALLEN'02, September 30°
MILTON C. DUNHAM'02, July 15°°
ARTHUR G. TUELL'02, September 30°
JOSEPH W. AYLWORTH'03, July 3°
HARRY G. NUTTER'03, August 8°
CALVIN P. BASCOM'04, May 29°
JULIUS L. HECHT'04, June 9°
ALPHEUS D. LYON'04, August 16°
ROYAL D. MAILEY'04, June 3°
JOHN BLATZ'06, May 4°
JOSEPH H. FEEMSTER'06, October 27°
ALBERT W. HEMPHILL'06, November 13°
FREDERICK C. MABEE'07, October 26°
WINSLOW D. ROBINSON'07, October 18°
AMOS H. DOWS'08, October 31°
WARREN KARNAN'08, February 22°
GEORGE C. MASON'08, May 20°
FRANCIS V. REYBURN'08, March 24°
JOSEPH HATHAWAY'09, July 30°
WILLIAM K. WENGERT'10, July 1°
JOHN A. ALLAN'12, May°
WALTER P. O'BRIEN'12, October°
BOLIVAR B. RINGO'13, June 3°
MAX M. BRAFF'14, June 7°
ALBERT E. KLEINERT, JR.'16, October 23°
PHILIP R. BROWN'19, June 17°
CHARLES C. LIKINS'19, July 30°
GEORGE O. HARTMAN'21, October 9°
DR. WILLIAM G. THOMPSON'30, August 13°
GEORGE W. DENNISON'33°
DUFF SMITH'33, April 18°
JOHN B. MERRILL'36, October 6°
CLIFFORD S. ABRAHAMSON'50, August 16°
DIMITRI TATISCHIEFF'52, September 17°

° Further information in Class Notes

°° See Class of 1903 Notes

News FROM THE Clubs AND Classes

CLUB NOTES

Lehigh Valley

This meeting at which Prof. Walter McKay of M.I.T. was our speaker, was arranged in conjunction with his trip at that time to visit the various high school student counselling officers in Harrisburg, Allentown, Bethlehem, and Easton areas. The Club invited the counselling officers of our Lehigh Valley district to attend the dinner and meeting, and were pleased to have seven of them as our guests.

Following dinner a business session was conducted by our new President, John Brosnahan'35 who introduced himself and explained his automatic succession from the vice-presidency to the presidency at this time as a result of our former President Moffatt's recent departure from this area. The meeting was then opened for nominations for vice-president to fill the remainder of the term thus vacated by Mr. Brosnahan. Jack Briggs'42 was nominated and, as there were no further nominations from the floor, a motion to close the nominations was passed.

A report on the state of the treasury and our student aid project was made by Treasurer Blake. Included in this report was a recommendation of the Executive Committee that the student aid project plan adopted at the Club Meeting in Palmerton in June be changed due to subsequent developments.

The following plan was adopted by the Club. A continuing M.I.T. Student Assistance program supported by the Club's yearly receipts will be pursued henceforth. The program contemplates that all members will be on the look-out for students and prospective students of exceptional ability and special need for whom the Club's relatively small scholarship aid would be an important contribution, and will present any cases they may develop to the Club officers. The officers will be expected to contact from time to time the Student Aid Administration people at Cambridge as well as local area Alumni Counsellors and others in a position to assist the Club's knowledge and further investigation of such cases. The Executive Committee was given authority to decide to whom, how much, and when, such aid should be given from the available Fund, which can be expended soon or may be permitted to accumulate over a longer period of time for larger future contributions.

To implement the financing of this new program, the meeting voted upon and adopted a proposal to increase the annual Club membership dues from \$3.00 to \$5.00, of which the additional \$2.00 shall be specifically set aside for the Student Assistance Fund.

President Brosnahan then introduced the speaker of the evening, Associate Professor Walter McKay, Executive Officer of the M.I.T. Department of Aeronautical Engineering, who gave us a highly instructive and absorbing talk on "Space Flight - Past and Future."

In some preliminary remarks, Professor McKay mentioned the excellent counselling work of the Pennsylvania Society of Professional Engineers. One example of their work was their practice of visiting the Junior High Schools and telling the boys that if they are thinking of scientific or engineering careers they must be sure to get a good foundation in mathematics.

Following Professor McKay's talk and a lively question period the meeting was adjourned. — J. M. SMYSER, *Secretary*, R. D. #4, Bethlehem, Pa.

New Haven

The New Haven County Club opened the fall season with an October 11 meeting at New Haven's famed Culinary Institute. This marked the first time since the June outing, in Pine Orchard, that the Club members had been together and the meeting was enough of an occasion that wives and friends were present and the cocktails were "on the Club." The delightful dinner had been prepared by the students at the Culinary Institute and was served by them in one of the banquet rooms. The officers for the year 1955-56 had been elected in the spring. They are: President, Fred Lutz'27, Orange; Vice-president, J. B. Gardner'44, Seymour; Treasurer, George Bailey'22, Orange; Secretary, Les Allison'50, New Haven; Governor-at-Large, Al Libbey'26, Branford.

Secretary Les Allison, however, is transferring to New York and President Fred Lutz has announced the nomination of Ed Jans'52 to be Secretary for the coming year. Ed was unanimously elected during the brief business meeting following the dinner. Before moving to another room for movies of the Connecticut floods, Mrs. Roth, president of the Culinary Institute, briefly described the interesting history of the school.

The "movies" that had been promised by J. B. Gardner turned out to be not available for this particular evening but J. B. showed us some very interesting color slides of the flood in Seymour, Ansonia, and other parts of the Naugatuck Valley. Speaker of the evening was Professor Gordon Williams'29, who gave a very appropriate talk about flood moderation and control. Present at the meeting were: Fred Lutz'27, George Bailey'22, J. B. Gardner'44, Peggy (Bowles) Smith'44, Les Lewis'22, Charlie Smith'00, Roy Parsell'14, Herb Polleys'18, Gerry Yudin'27, Ed Taft'13, Al Libbey'26, Ed Haskell'26, Larry Grew'27, Ed Coogan'22, Joe Hetzel'23, Earl Lovering'28, and Les Allison'50. — ED JANS, *Secretary*, 23 Long Island View Road, Milford, Conn.

Northern New Jersey

The year's first regular meeting of the M.I.T. Club of Northern New Jersey was held on October 13, 1955, at Hotel Suburban in Summit. President Russ Westerhoff'27 presided over a brief business meeting.

Acknowledgment was made of the excellent job done by Jack Andrews'33 and Stu Stearns'39, on the Club Newsletter, which made its first appearance with the announcement of the first meeting.

George Des Marais'20 formally reported to the Club membership on the Scholarship award of the M.I.T. Club of Northern New Jersey, to Robert Ten Eick, who entered Tech this fall. This scholarship aid meant "Tech" to this deserving student, who otherwise would have had to go to some lesser institution.

John Reid'48, Chairman of the Program Committee, outlined the programs for the balance of the year, including space travel, speaker from the Institute, and visit to a brewery.

Arthur Schwartz'47 reported enthusiastically on the first Alumni Officers' Conference at Tech, and gave news of the inspiring developments at the Institute.

Treasurer Joe Wenick'21 reported that the Club's treasury amounted to \$650, but lamented the fact that more of the approximately 2,000 Alumni in the area did not participate in Club activities, enjoy the broadening experience of interesting technical speakers, and partake of the good fellowship among brother Alumni, at our meetings. Perhaps each of us can bring another Alumnus to the next meeting.

Lou Bruneau'38, a member of our Club and President of the New York Club, announced the opening of club rooms at Hotel Chatham (NYC) on November 1st. There will be a program of get-togethers, class dinners, and joint meetings with other regional clubs, to stimulate the solidarity of Tech Alumni in the Metropolitan area. Joe Conrad, the new permanent executive secretary of the New York Club, was introduced.

Official announcement was made to the membership, concerning the proposed constitution revision and modernization, prepared by the Committee under Rusty Lowe'16. Copies of the constitution and revision were made available to those present. A copy will also be mailed to each member prior to a vote at the next meeting.

Following the business meeting and committee reports, there was an excellent talk by Arthur A. Fertig, Assistant to the Vice-president of Vitro Corporation of America, on the subject of "Uranium."

The talk was followed by the usual excellent refreshments provided under James Shyne'43, Chairman of the House Committee.

The second meeting of the Board of Governors and Committee Chairman of the M.I.T. Club of Northern New Jersey

was held at Hotel Suburban in East Orange on November 8, 1955.

John Reid'48, Program Chairman, reported that the next meeting of the Club membership would be held on Monday, December 5th, at the Hotel Suburban in East Orange. The subject will be "Humanistic Problems of Space Travel." Messrs. Kim and Brown, of Reaction Motors, Inc., will speak. They will cover problems involved in application of rocket engines to guided missiles, boats, and other vehicles, and there will be a film on "Project Roar" concerning application of jet engines to helicopters.

Treasurer Joe Wenick'21 discussed the need for more members. In the past, in the interests of the economy, there has been only one yearly solicitation for membership sent to the entire group of Alumni in the area, and subsequent mailings have been limited to those who have paid up, or who have indicated interest in receiving notices of subsequent meetings. It was decided that we would recircularize the entire local Alumni body.

George Des Marais'20 reported on the new system being promulgated by the Institute, whereby Scholarship Fund contributions sent directly to the Institute will also be credited to the regional Club. However, our Club is committed for this year to continuing last year's local fund, from which a scholarship is awarded to a locally-selected student. Future action will be considered when additional information from the Institute becomes available, especially as to regional selection of recipients.

Reports were received from Sumner Hayward'21 of the Educational Committee, Don Spitzli'27 of the Reception Committee, Kenneth Radimer'42 of the Publicity Committee, James Shyne'43 of the House Committee, and Russel Lowe'16 of the Constitution Committee. — STUART G. STEARNS, *Secretary*, 25 Elmwood Place, Short Hills, N. J.; JEROME E. SALNY, *Assistant Secretary*, Egbert Hill, Morristown, N. J.

Central New York

The M.I.T. Club of Central New York held a dinner meeting at the University Club, Syracuse, New York, on November 10, 1955. The election of officers for the 1955-56 season was held. Edwin L. Moyer'2-44 was elected President, William R. Schuler'32 was elected Vice-president and Program Chairman, and Norman Sebell'44 was elected Secretary-Treasurer.

Following the election, the group enjoyed a sound-color movie, "Dawn's Early Light," distributed by the Westinghouse Motion Picture Department in Pittsburgh. The film described some peaceful uses of atomic energy. — EDWIN L. MOYER, *Secretary*, Box 25, Colvin Station, Syracuse, New York.

New York, Inc.

At this time it is our pleasure to chronicle an event which for many Alumni here in New York represents a milestone. On Tuesday, November 1st a cocktail party was held in The Chatham in the new M.I.T. Club quarters. The satisfaction of realizing a long awaited ambition was heightened by the tremendous response

of those invited to attend. The best estimate of the number of those who came runs between five and six hundred. Actually, the quarters were so crowded it was impossible to make an accurate count. Besides the numbers present, the occasion was marked with cordiality and camaraderie. The quarters were indeed christened with the proper atmosphere.

The next day luncheon facilities were barely arranged in time to receive those who returned to lunch. Once more the quarters met the test when the food was judged both good and reasonable in price. You can now have our personal assurance that the M.I.T. Club quarters will please you in every way.

Recently the membership of the Club has been increasing at the rate of a hundred new members per week. At about the time the quarters were opened, the number passed a thousand. Why not join with your fellow Alumni, or if you are already a member, tell someone else what they are missing. This Club should have at least twenty-five hundred members.

On Tuesday, October 18th the M.I.T. Alumni of Westchester, under the chairmanship of Wilbur Jones'34 presented Dean E. P. Brooks'17 of the School of Industrial Management, and H. E. Lobdell at the Scarsdale Golf Club. To introduce the speakers George Dandrow'22 was the master of ceremonies. In spite of the devastating rains experienced over the preceding weekend, almost one hundred members were present to hear from Dean Brooks and Lobby. We need hardly say they were not disappointed.

At the last meeting the Board of Directors passed a resolution appointing John C. Nowell'94, one of the original founding members of the Technology Club, an honorary member. The other honorary members of the Club at this time, besides Mr. Nowell, are President J. R. Killian, H. E. Lobdell and D. P. Severance.

In closing let me remind you once more of the Mid-Winter Regional meeting with Professor W. G. Whitman as speaker on February 2nd. — M. R. McGUIRE, *Secretary*, The Cooper-Bessemer Corporation, 25 West 43rd Street, New York 36, N. Y.; JOHN E. PLANTINGA, *Assistant Secretary*, Meyer, Strong and Jones, 101 Park Avenue, New York 17, N. Y.

Alumnae in New York City

An evening meeting of the M.I.T. Coed Alumnae in the New York City area was held on November 17 in the new headquarters of the New York M.I.T. Club.

The committee in charge of the arrangements for the meeting included Miss Elizabeth Dolan'34, chairman, Miss Elizabeth Clark'54, Mrs. Thomas Clough'32, Mrs. Edward Everett'30, Miss Phylliss Fox'49, and Mrs. James Leff'45. This committee had been appointed at the initial May meeting of the New York Coed Alumnae. At this time the group decided that supplementary meetings to the M.I.T. Club of New York for the coeds would further their interest and activity in the Club. It was decided to keep these meetings on a social basis instead of forming a separate organization with formal meetings and speakers.

Through the cooperative efforts of the M.I.T. Women's Association, the M.I.T. Alumni Association and the M.I.T. Club of New York, this May meeting was held at the Wellesley Club under the chairmanship of Miss Elizabeth Dolan. Following a lively discussion concerning the future of women alumnae meetings in New York, Miss Eleanor Pepper'28 introduced the speaker for the evening, Mrs. Elspeth Rostow, assistant professor of history in the economics department.

"The Well Tempered Sliderule, or Changes Along the Charles" was the subject for Mrs. Rostow's talk to inform the Alumnae of what is happening at M.I.T. today. Instead of describing the physical changes which have been numerous during the past decade, Mrs. Rostow devoted the evening to a discussion of the expansion of the humanities as integrated with the scientific studies. She described the evolution resulting from the experimental attitude toward education which is primary at the Institute to provide new programs which best fit the graduate for the business world in which he or she will be working.

Twenty-one Alumnae were present at the meeting including: Mrs. Maria Bental'51, Miss Kathleen Black'50, Mrs. Ida Blackman'39, Miss Elizabeth Clark'54, Mrs. Thomas J. Clough'32, Mrs. Mary Louise Curley'46, Mrs. Hazel Curtins'33, Miss Elizabeth Dolan'34, Mrs. Elizabeth R. Everett'30, Miss Phylliss Fox'49, Mrs. Anna C. Gelman'34, Mrs. Evelyn K. Hoar'33, Mrs. Tatiana Z. Hull'40, Miss Frances Karlan'42, Mrs. Miriam Leff'45, Miss Louisa Norton'24, Miss Jeanne S. Pearson'40, Miss Eleanor Pepper'28, Miss Sara Scudder'27, Mrs. Ruth G. Shaeffer and Miss Reba Thompson'09. — MISS ELIZABETH DOLAN, *Chairman*, 600 Fifth Avenue, New York, New York.

Puerto Rico

The annual meeting of the M.I.T. Club of Puerto Rico was held at the Caribe Hilton Hotel on Saturday, October 29, 1955. In this meeting the new board of governors for the year 1955-56 was elected as follows: President, Manuel Viñas Sorbá'45, 1555 Francia St., Santurce; Vice-president, Jorge López Ramirez'45, Box 69, Hato Rey; Secretary, Ulises Barros Loubriel'55, Box 5011, Puerta de Tierra; Treasurer, Denjiro Rivera'44, Box 2853, San Juan; Vocals, Antonio Kayanan'42, Box 9447, Santurce and Antonio Romero'12, 57 Washington Ave., Santurce; Past President, Angel (2) Silva'31, Box 6234, Santurce. — ULISES BARROS LOUBRIEL, *Secretary*, Box 5011, Puerta de Tierra. RAYMOND STEVENS, *Club Representative*, 30 Memorial Drive, Cambridge, Mass.

Sao Paulo

The Club held its tenth meeting on September 23, 1955 at the Cantina Don Cicillo in Sao Paulo. Present at the gathering were Adolpho Santos, Jr.'24, Werner Bachli'33, Hanns Maier'44, Victor F. B. deMello'46, Eduardo Prado, Jr.'50, Marc Aclion'51, Heinz Gunther'52, and Werner Kahn'52, from Rio de Janeiro.

The reduced number of members allowed for round table conversation.

Among the subjects discussed, two evoked very lively debate and commentaries; one dealt with the responsibilities assumed by a consulting engineer when making recommendations to his client; the other dealt with the type of university training desirable for an engineering graduate. — MARC AELION, *Secretary*, Avenida 9 de Julho 1289, App 41, Sao Paulo, Brazil.

Southern California

On October 25, 1955, the M.I.T. Club of Southern California held its monthly dinner meeting at the Nickabob Restaurant in Los Angeles. The guest speaker was A. M. Zarem, Assistant Director of the Stanford Research Institute. Dr. Zarem gave a brief background of the Stanford Research Institute and then proceeded with the topic for the evening which was "Solar Energy — A New Horizon." This talk, which proved to be very interesting to the entire group, was highlighted by Dr. Zarem's predictions that solar energy would find practical uses before nuclear energy and that ten million homes in the United States would be heated entirely by solar energy by the year 1975.

At this meeting it was established that the 1956 Regional Conference will be held at the Ambassador Hotel in Los Angeles on March 17, 1956. Members present at this meeting were: Herbert H. Calvin '12, Harold S. Johnson '12, William C. Lynch '12, Page Golsan '12, George A. Watt '22, W. H. MacCallum '24, Homer S. Davis '24, William P. Hand '24, Frank E. Reeves '24, Anthony Thormin '27, Joseph Dauber '34, Rose E. Lunn '38, Harold Strauss '39, Jay Zeamer '40, Adolph Bertsch '46, Marc G. Dreyfus '50, William R. Geist '50, Lt. Col. W. P. Patterson '50, David E. Long '51, Samuel Lunden '21, Gordon B. Fox '54, Dr. P. K. Bates '24, Rocky Hereford '24, N. Kelley '27, Duane O. Wood '37. — JAY ZEAMER, *Assistant Secretary*, 8109 Creighton Ave., Los Angeles 45, Calif.

CLASS NOTES

• 1891 •

Our president, Harry Young, received this clipping about our classmate, Edward R. Wait and I quote it to you. Harry received it from Wait's daughter, Margorie Wait Acree.

"Funeral services for Edward Riggs Wait, an architect who designed many of Winchester's buildings, were held recently. He died August 14. After graduating from M.I.T. in 1891, Mr. Wait worked as a draftsman with Shepley, Rutan and Coolidge (now Shepley, Bulfinch, Richardson and Abbott). In the late 1890's he designed the Paine Furniture Company Building, which was located at 48 Canal Street in Boston.

"Buildings in Winchester which were designed by Mr. Wait include the Winchester Trust Company, the Fire and Police Stations, and the Winchester Co-operative Bank. He also planned many houses and public buildings in Glens

Falls, New York and Portland, Maine.

"In 1918, Mr. Wait went to Italy as regional director in the U. S. Army of Occupation as a Major with the Y.M.C.A. He worked with the Italian army in Northern Italy where he set up 'Y' stations.

"Mr. Wait's services to the town of Winchester included working on the Building Committee and on the Board of Appeals. In 1932 he moved to Pigeon Cove, Mass. In the late 1930's he designed the Rockport Fire and Police Station for the PWA.

"Mr. Wait was preceded in death by his wife, Mary Green Wait. He leaves a brother, Arthur K. Wait of Roanoke, Va.; three sons, Philip E. Wait of Newton Center, Edward R. Wait, Jr. of Walpole, and William G. Wait of Wellesley; a daughter, Mrs. Margorie Wait Acree of Boston; and seven grandchildren."

Our distinguished classmate Will Wilder died October 24 at his home in Newton Center. The *Boston Herald* of October 25 states: "Salmon W. Wilder, 85, who retired in 1931 as board chairman of the Merrimac Chemical Company of Boston died yesterday at his home in Newton Center. He was a former member of the Corporation of M.I.T. and a past member of the Newton School Board.

"Before becoming connected with the Merrimac Chemical Company in 1898, he had been associated with the Russell Paper Company of Lawrence, William Russell and Son in Boston, and Fall Mountain Paper Company of Bellows Falls, Vt. He was president of the Merrimac Chemical Company from 1904 to 1928, then board chairman until his retirement. He was also a member of the American Chemical Society and the Society of Chemical Industry.

"Surviving are his wife, Mrs. Marcia Sawyer Wilder; a son, Philip S. Wilder of Brunswick, Me.; a daughter, Mrs. Harry F. Bliven of Newton Center; three grandchildren and three great grandchildren." — GORHAM DANA, *Secretary*, 44 Edge Hill Rd., Brookline, Mass.

• 1892 •

The secretary has to report that he has just received notice of the death, last June, of Alden P. Marsh at his home in Danvers, Mass. Marsh was with us in mining engineering and put in the larger part of his active career with the Massachusetts Metropolitan Transit Authority as Inspector, with headquarters in West Somerville.

The secretary has no other news to report at the present time. — CHARLES E. FULLER, *Secretary*, Box 144, Wellesley 81, Massachusetts.

• 1893 •

We were shocked to learn of the sudden death of Leonard B. Buchanan at his home in Woburn, Mass., on November 9. He leaves his wife, Ethel L. Buchanan, a son, Lowell Winn Buchanan of Lubec, Maine, and a daughter, Ruth Buchanan Lenart of Larchmont, New York. Classmate Buchanan had been at his office on November 8 but stayed home on the 9th to oversee some work that was being done about his home. He complained of not feeling well that afternoon and passed away later in the day. Leonard Buchanan

had always taken an active interest in Class affairs and he will be greatly missed by his classmates. — GERTRUDE B. CURRIE, *Secretary*, c/o Fay, Spofford & Thorndike, 11 Beacon Street, Boston 8, Mass.

• 1894 •

It is gratifying to report that the item in the October Class News mentioning Jack Nowell's sending a copy of the first directory of the M.I.T. Club of New York was of interest to many people. Veep Lobdell exhibited it in New York at the celebration of the New York Technology Club, now sixty years old, and it apparently caused much interest. Through Jack's willingness to part with it, it will now become one of the archives of the Club, and tenderly cared for there. The mention of this also resulted in the secretary's receiving a few days ago an appreciative letter from Howard R. Barton who was one of the ten graduates in '94 to be founder members. He writes: "Well remember the organization meeting in the restaurant atop the Jersey Central R.R. building at Liberty and West Sts., and also the informal luncheons at Gellio's restaurant in the basement at Broadway and Cortlandt Sts. where we gathered on Thursdays to get oxtail and sphagetti. F. A. Pickernell ('85) took along a number of his assistant engineers from the Telephone Company. We were joined by other Tech men and the idea of a society was talked up. I remember Alex Rice McKim as one of the most enthusiastic advocates." Thanks, Howard, for your vivid memory. It will doubtless be shared by all the survivors of the group that read these notes.

Some weeks ago, or it may have been months, a letter from John W. Kittredge was received in which he expressed the desire to present to the Civil Engineering Dept. the transit he had used for many years in mining surveying. The instrument had some special features which were mentioned. Contact was made with Prof. Wilbur who was appreciative of the offer and gladly accepted. A letter from Kit, dated Nov. 9, states that the transit and some special pointers in regard to its use have now been forwarded to M.I.T. This instrument was bought in 1895, the year after we graduated, and Kit used it throughout his mining work in Colorado. He now says: "At 87 years of age to my nearest birthday, my surveying days are over." Kittredge now lives at 239 Porter St., N.E., Warren, Ohio, and reports himself as pretty well but quite deaf and of course strength is down. "I have no regular work and find it hard to keep occupied." Too bad, after he has kept himself so well occupied for fourscore years. It is suggested that, like some of the rest of us, he turn to writing and to poetry for he has the gift. There must be much in his career worthy of song and story.

George N. Leiper reports his address still at "Westleigh," 8815 Normand Ave., Chestnut Hill, Philadelphia, Pa. — SAMUEL C. PRESCOTT, *Secretary*, Room 16-317, M.I.T., Cambridge 39, Mass.

• 1895 •

This is the year 1956! Your secretary extends greetings to all '95 class mates, and wishes the best in health, in happi-

ness, and in longevity throughout the coming year. Last month there was nothing of note to report so your secretary's pen was silent. All mates reading these notes, please write to your secretary, telling him where you are and what you are doing. We now regretfully report the passing of Parker Henry Kemble and Richard Henry Rich. Parker Kemble was with our class during 1894-95 in course XIII. He passed away on May 24, 1955, after most interesting and active engineering experiences. From 1898 to 1900 he was inspector of hull construction, also in charge of the construction of power house and machine shop for Wm. Cramp and Sons, Pa. In 1901 he was superintendent of Columbia Eng. Works, Brooklyn, and consulting engineer, National Board of Marine Underwriters. Between 1904 and 1906 he was a mechanical engineer for Boston Electric Railroad in charge of design and construction of power stations and new cars, and from 1906-08, operations manager and construction engineer, N. C. L. and P. Company, Conn. From 1909-11 he was district manager, Brooklyn Edison Company; from 1911-13, general sales manager, Toronto Electric Light Company in Canada; 1913-14 general sales manager Cincinnati Gas and Electric Company, Ohio; 1914-15 he cruised on the inland waters. In August 1916 he went to Plattsburg as a member of Company I, 9th Regiment. On Decoration Day, 1917, he was asked to report at Fort Totten on June 1st to help train the New York engineers. In the summer of 1917 he collaborated with Lt. G. L. Cabot, U.S.N.R.F., on aerial photography, building seven airplane cameras and succeeding in getting good pictures around Boston from heights of 4000 ft. These were being pieced together for a map of the district when an accident to the machine put an end to the work for the season. On November 5 he went with U.S. Shipping Board Recruiting Service under Henry Howard at \$5.00 per month in part charge of Sea Service Dept. The work was varied, including among other things, the supervision of loading and unloading of the cargo of the "Calvin Austin," which was used as a relief ship in the Halifax explosion disaster in Dec. 1917. In March 1918 he was called to Naval Service, and on April 9th was sworn in as Lt. U.S.N. Reserve, Class 4, for general service, and assigned to duty at the Custom House. No over-seas service came his way. He was production officer, First Naval District, with additional duty of looking after steam engineering aeronautics, and senior assistant inspector of engineering material for this district. He was placed on the inactive list April 2, 1919. During the twenties he was Administrator of the Massachusetts General Hospital, Director of Holtzer-Cabot Co., and a consulting mechanical engineer. He attended Harvard University and Polytechnic, Germany. He published a number of articles and lectures. He was a member of the Harvard Club, Salmagundi Club, N.Y., and the Eastern Yacht Club, Marblehead, Mass. He was also a member of many professional societies. His was a busy and interesting life.

Richard Henry Rich was with our class during 1891 and 1892. He passed away September 18, 1955, at his home in Clinton, Conn. He started with the class in 1891, but had to leave at the end of his first year due to danger of break-up from a nervous trouble. He apprenticed to a Boston firm to learn wholesale dry goods business. He had a great distaste for this work so he took as many of the Lowell Free Courses as was possible evenings. He studied chemistry, civil engineering and mechanical drawing. A few years later he got a position with the late George A. Kimball surveying for a study of a sewer system to abate the "North River Canal" nuisance in Salem, Mass. The next 14 years were spent with Boston and Maine Railroad in the Engineer's Corps, most of the time in charge of a party on general surveying, construction of bridges, etc. In 1910 he entered the employ of New York, New Haven and Hartford Railroad Company Real Estate Department, working for four years on relocation and surveying of its lands and property. When finished with this work he became Assistant Engineer of Real Estate, handling all kinds of questions affecting title and property, lines in connection with right of way and outlying property. In later years he retired from this work. He is survived by his wife Mrs. Edith Rich of Clinton, Conn., and two daughters, Lt. Commander Mary I. Rich, U. S. Navy WAVES, New York City, and Mrs. Malcolm Braren of Little Meadow Road, Guilford, Conn. — LUTHER K. YODER, *Secretary*, 69 Pleasant Street, Ayer, Mass.

• 1896 •

As you receive this very limited report on class activities you will have formulated your New Year's Program. "A Happy New Year" to you all. There is little to report; we would welcome biographies which should be interesting reading. We have no way of constructing news items unless you fellows contribute. "Something's got to give." We have received notice of the death of Hermann Von Holst, Boca Raton, Fla., Oct. 17, 1955; Henry A. Waterman, Yarmouth, Nova Scotia, Oct. 25, 1955, and Lt. Col. Henry H. Kimball, 2419 Overlook Road, Cleveland Heights 6, Ohio, in 1948. We have a balance in our general fund of \$269.11. In the benevolent fund, \$1,383.27. — JOHN A. ROCKWELL, *Secretary*, 24 Garden St., Cambridge 38, Mass. FREDERICK W. DAMON, *Assistant Secretary*, Commander Hotel, Cambridge, Mass.

• 1897 •

William Binley, who graduated in Course 13, is now living at 156 High Street, Exeter, N. H. We believe that he followed the profession of naval architecture throughout his entire business career thus making good use of his M.I.T. training. For many years he was an executive at the Fore River Shipyard of Bethlehem Steel Company. The following delightful letter from him describes a philosophy we commend to all for consideration: "In response to your recent request for material for the Technology Review you might note that, at the close

of the recent war, a large number of naval vessels and a number of the older naval architects, including myself, were retired to go in the mothball contingent. We were glad to be able to retire to the small college town of Exeter, New Hampshire, where life flows on calmly. It is pleasant to note that Fred and Mrs. Hunnewell were able to locate us recently.

"I was told upon retiring that I would find it boring after an active life but that has not been my experience. I have found it hopeless to try to keep up with modern science and technology — it is probably beyond the capacity of the average octogenarian. I find the time is fully taken up with some sort of exercise outdoors in the morning; with an auto trip in the afternoon and with the reading of history, biography, or a French novel in the evening. With two small dogs for company I am compelled to get out for air several times a day anyway.

"Golf was tried at first, but as I played it like baseball and broke several clubs and lost many balls, that was given up. So our main diversion is to tour in the car. We have taken trips throughout the country to many of the National Parks, to Mexico City and to the Eastern Province of Canada. Frequent trips are made to visit our two sons and their families not far from Boston.

"There is usually a trip to New York in the fall to attend the meetings of the Society of Naval Architects, where we usually run across Jere and Mrs. Daniell; spring meetings in some other city (next spring it will be Montreal); also meetings of the American Ordnance Association to see and hear the latest in weapons. One hobby is to look over any of the Civil War battlefields that we can get to.

"The first three months of this year were spent in Florida, and in St. Petersburg I had the pleasure of dining several times at the Wedgewood Inn with former naval architects J. W. Clary'96, L. F. Hewins'98 and E. E. Pierce'99. This winter we hope to drive to Arizona to test out a drier climate. In the spring we usually head for Virginia during Garden Club Week. We recently started for Winnipeg, but the weather was so hot we settled for Toronto and Muskoka Lakes in Ontario. If we have to go into the city, Boston is only an hour and a half away. So you see we are trying to settle down comfortably into old age, which has crept up on us but we are able still to maneuver if not at high speed at least in low gear."

From the '55 Alumni Fund Report it seems evident that it was a member of the Class of '97 who was the generous benefactor that agreed to match dollar for dollar every alumni gift to the '55 Alumni Fund. Furthermore, his total contribution to the Compton Laboratories exceeded by 40% the total of all other Alumni gifts to the '55 Fund.

In that same Fund Report under "Other Contributions to M.I.T." reference is made in three instances to '97 Fund. We have learned on good authority that this was a misnomer and there is no '97 Fund as such. It should properly have read in each case "... Fund, '97."

Furthermore, every member of the Class must be proud of the fact that 79%

of the living members of the Class subscribed to the '55 Alumni Fund, leading all other classes in this respect. Congratulations to our Class Agent, George Wadleigh!

A letter from Judge Charles Dunn (Course II) of Lock Haven, Pennsylvania, reads as follows: "I have seen Tom Weymouth two or three times this past summer and he has wanted me to write to you about some of my experiences. Tom, as you know, was the guinea pig on the arthritis work in New York City. He was on crutches, but he got to walking very free with only a cane, but because of over-exercise he had a little bit of flare-up of his old trouble and he has been sent to bed for a few weeks, but I feel that he will be all right. I am sending you, herewith, a separate paper on my activities since leaving Tech and there are certain things too big to allow conservatism or egotism. Of course you referred to our dancing in the ballet together and the training to keep in step has fitted me for an Associate Judge."

Judge Dunn's enlightening statement follows: "I will retire from the Bench, after having been a Judge for more than thirty and one half years, on the first of January, 1956. There is a provision in the Constitution of the State of Pennsylvania that counties of less than forty thousand inhabitants elect two associate judges, unlearned in the law and they shall be from neighboring counties. Presided over by a law judge, these associate judges are judges of fact. In my long years of experience I have sat on the Bench with sixty-five present law judges. There is a difference between the Administrator of Justice and the interpretation of the law as it is passed by the legislature. Of course over the years you cannot remain ignorant of the law. To go up to our United States Supreme Court, Justice Oliver Wendell Holmes never tried but two cases in court and the present Chief Justice Warren was criticized because he had very little experience in the trying of cases. It takes an attorney a number of years to forget what he has been practicing as an attorney before he becomes a competent judge. I would refer you to three books on this subject. One is the 'Yankee from Olympus,' one is 'Judge Medina,' especially that part of his book which refers to a judge and his God, and to the encyclopedia on Greek Mythology, the story of 'Phaetfon.' The motto of a judge should be part of two verses from the Old Testament Prophet, Micah, which states, 'and what doth the Lord require of thee but to do justly, to love mercy and to walk humbly with thy God.' Soon after leaving college I worked for three years as a machinist in the Pennsylvania Railroad Shops at Renovo. I was, for twelve years, the superintendent of the Mann Edge Tool Company Ax Factory at Mill Hall, Pennsylvania, and I was, for over fifty years, a director of the Company. When I first went to the Mill Hall plant, what was called ax makers consumption was very bad. I also worked with the Norton Company and with the exhaust people to change from wet grind stone grinding to dry emery grinding and exhausting the dust from the factory. This work resulted in the removing of

consumption from edge tool grinding. I was instrumental in founding an Agriculture Extension Association in our County and I have been either treasurer or assistant treasurer of this for thirty-eight years. I have been president or chairman of the board of the Clinton-Lycoming County Tobacco Growers Association for forty-two years. In 1936 we had the worst flood that ever existed on the West Branch of the Susquehanna. When the water was nine feet deep on Main Street our Episcopal Church caught fire from a short circuit and was completely gutted. Our rector lost heart and left town. As Senior Warden, it was my duty to rally the church members and former church members from all over the nation and rebuild our church, which we did at an expenditure of more than eighty thousand dollars. We succeeded in wiping out the debt. I can understand the disheartening conditions which followed the floods in the eastern part of our state and through New England and New York.

"I have been working a number of years on the protein content of vegetable matters and the use of electrospectrum microscopic analysis which has led to great advances in protein analysis. The increase in tumor formation in the breaking of the atom is alarming and in view of the control of the x-ray and radium, the control of the breaking of the atom will require very extensive research. It has been my pleasure to work with some very fine scientists on protein production. I do not wish to overemphasize my part in this matter, but I wish to call to the attention of the members of our Class the increased danger to all living matter in the changes of electrical fields caused by the breaking up of the atom. This is a matter to be studied by biological chemists and by pure scientists. I wish to call the attention of the members of our Class to the fact that old age is not a matter of years, but rather our ceasing to fight for the advancement of mankind."

In the November issue we reported a change of address for Professor Alpheus G. Woodman. This was in error as he informs us that 367 School Street, Watertown, Mass., is his correct address and has been for the past fifty years. — JOHN P. ILSLEY, *Secretary Pro-Tem*, 26 Columbine Road, Milton, Mass.

• 1899 •

After the Class luncheon on Alumni Day a class meeting was held at which William A. Kinsman (Tim) of Newburyport, Mass., was elected as president of our Class to succeed Arthur Hamilton, deceased. Your Secretary deeply regrets that through an oversight this fact was omitted from the class notes in the November issue.

Everett Pierce, retired vice-president of the Bath Iron Works, is spending the winter months at St. Petersburg, Fla. Ed Packard likewise seeks the warmth of southern skies at Gulfport.

Unless members of the class overcome their apparent reluctance to talk about their past or present personal or professional experiences (how alliterative) I shall be forced to write about myself. I hope this threat will be sufficient to bring

me a flood of mail. — B. R. RICKARDS, *Secretary*, 381 State Street, Albany, N. Y. MILES S. RICHMOND, *Assistant Secretary*, Little Compton, R. I.

• 1901 •

I had a letter from Bob Derby in August in which he said: "I have been pretty much out of commission for the last eighteen months or thereabouts. In July, 1954 I had a serious internal operation at the M. C. H. in Boston and after being at home for only about a month I had a breakdown which required a sanitarium stay of eight months. However, I was released early last month and took a cruise to Venezuela and Columbia partially to avoid the intense heat here in the East. It worked out that way in spite of the difference in latitude. As for my activities prior to my illness, I was not too idle. I have been chairman of the Berkshire County Dutch Elm Disease Control Committee and the Williamstown committee of the same name. Also president of the Williamstown Taxpayers Association. In addition, a couple of years ago I was secretary of a committee here to study the town government and recommend changes which would increase efficiency. In so far as travelling is concerned, I am a nut on Central and South America and almost every year take some sort of a short trip in that connection. I might possibly show some slides at the next reunion if you think anyone would be interested in hearing me talk." Bob's talk will be a feature of the reunion.

Phil Moore sent me two clippings which should interest the Class. Mr. and Mrs. Will G. Kelley '01 of Winnetka, Ill. for many years, have recently moved to Wilmette. Mr. Kelley was a consulting engineer and is retired from the Commonwealth Edison Company, Chicago, where he was employed for 46 years. Langdon Pearce '01 of Winnetka was among those especially honored by the Chicago chapter of the Illinois Society of Professional Engineers at their family outing in July. Mr. Pearce, a registered professional engineer in the State of Illinois, has been a member of the Illinois Society of Professional Engineers since 1912. He is currently sanitary engineer with the Sanitary District of Chicago and in charge of issuing permits and reviewing plans and specifications for sewerage improvements. He holds an A.B. degree from Harvard, class of 1899, an S.B. and an S.M. degree in engineering from M.I.T. He is a member of the honorary fraternity Phi Beta Kappa. He is a member of many engineering and scientific societies and various other clubs.

I have just received word, through the Alumni office, of the death of Joseph Philbrick, X, of Old Orchard Beach, Maine, in August 1955.

The plans for the reunion are progressing rapidly and preliminary questionnaires will be sent out to all in January. You are urged to reply promptly. Since the Class Letter will go out in February, there will be no class notes for that month. So, until I see you in March, keep the news coming. — THEODORE H. TAFT, *Secretary*, Box 124, East Jaffrey, N. H. WILLARD W. DOW, *Assistant Secretary*, 78 Elm St., Cohasset, Mass.

• 1902 •

News of the death of two members of our Class, Frank D. Allen, Course I, and Arthur G. Tuell, XIII, has been received by newspaper clippings. Allen, whose death occurred on September 30, 1955, had been for many years before his retirement an independent coal operator in Boswell, Somerset County, Pa. In an early letter to Hunter he describes how he got into that line of business. He left Tech before graduation and for a short time was with the Sewer Division of the City of Boston but the job dried up in a few months and he moved to Somerset County. He put in a year as construction engineer for the Somerset Coal Company, picking up a knowledge of coal mining, surveying, and mapping. He then became chief engineer to the Merchants Coal Company who were then engaged in constructing their large Orenda plant and building the town of Boswell, Pa.

When this work ended, Allen moved to West Virginia and for a few years devoted himself exclusively to coal mine engineering and at the end of that time had charge of the engineering work at thirty-five mines of one large company. The next three years were spent as mining and construction engineer for the Merchants Coal Company with operations in both Pennsylvania and West Virginia. He then had an opportunity to become an independent operator and continued as such until his retirement.

We are indebted to a clipping from the Fall River *Herald-News* of October 1, 1955 for the following data regarding Tuell. "Arthur G. Tuell, 78, a retired boat builder of 27 Sherman Street, New Bedford, and formerly of Westport, died yesterday in a New Bedford hospital. He had resided at a rest home in Dartmouth during the past year. A native of New Bedford, Mr. Tuell was the husband of the late M. Ella (Manchester) and the son of the late Charles A. and the late Elvira M. (Gifford) Tuell. He lived in Westport from 1904-25. He attended the New Bedford schools and studied naval architecture at the Massachusetts Institute of Technology. He was a member of the Allen Street Methodist Church in New Bedford and the Mariners Club of Fairhaven. He leaves a son, Samuel G. of Plainville, Conn.; a daughter, Mrs. Faithie Vicas-Smith of Yonkers, N. Y.; seven grandchildren and one niece."

Your secretary takes this opportunity to express the hope that the coming year treats you well and that you will have an urge to send in news about yourselves. — BURTON G. PHILBRICK, *Secretary*, 18 Ocean Avenue, Salem, Mass.

• 1903 •

The following resumé of the life of Milton C. Dunham '02 has been sent us by Charles F. Gardner, also of '02. Although Dunham's death was recorded in the December issue of *The Review*, Secretary Philbrick of that class suggests that there may be more details here than previously reported, and also the information may be of interest to our Class who knew him. "Milton C. Dunham was born in North Bridgewater, Mass., July 16, 1879. He graduated from M.I.T. in

the Class of 1903 from Course III, Mining Engineering. After leaving Tech, he obtained a position as mining engineer in California, and while there made quite heavy investments in San Francisco real estate which was completely lost during the earthquake of April 16, 1906. He then went to the Abangaria Gold Fields of Costa Rica as chief assayer and eventually became owner of the mines. Shortly after he acquired the mines, President Roosevelt raised the gold standard and Milton was then able to operate at a very satisfactory profit. Again he invested extensively in real estate, and at one time ceded to the government a strip of land five miles long over which was constructed the Pan-American highway. His chief hobby was cattle raising which he went into quite extensively, keeping upwards of three thousand head on his farms. He worked closely with the government in breeding choice Brahman. He also produced cattle for the market, shipping a carload weekly. Always a lover of horses, he kept a herd of over two hundred, many of prize pedigree. He became interested in coffee raising and owned several productive plantations. Milton enjoyed cruising and in '52 made a trip around the world, in '53 took the North Cape cruise and last year traveled South Africa. Two years ago he came to Boston to undergo surgery at the New England Baptist Hospital. During his last illness he made his home with his sister, Mrs. Howard Richards, at West Bridgewater, where he died on July 15th, last."

Gardner, VI, was a life-long friend of Dunham's, and also took most of his work with '02, and is registered in that class, but graduated with us. Gardner is retired and lives at East Sandwich, Mass. Harry G. Nutter, VI, died in Syracuse, New York, on Aug. 8, 1955. Previous to retirement he was a partner in Screen-graphic Art Co., in Syracuse. He came to us from Chelsea, Mass. During First World War, he was in the Massachusetts State Guard, and did duty around Boston on the docks. Between that time and this date, we have no other information. We would appreciate knowing what he did and something about his family for the class record. Please note the letter from your Class Agent, and govern yourself accordingly. Let's make another good year for the Alumni Fund. — FREDERIC A. EUSTIS, *Secretary*, 131 State Street, Boston, Mass. JAMES A. CUSHMAN, *Assistant Secretary*, South Wellfleet, Mass.

• 1904 •

It is indeed unfortunate that the entire column of notes for this issue is made up of a list of those "whom the Master calls, from us who watch and wait, and in answer to His call have passed the cloud which veils the golden gate."

On May 29, 1955, Calvin P. Bascom, S.B. Course XIII, passed away at his late residence, 530 North Union Boulevard, St. Louis 8, Mo. I have no details, simply the notice of his death. The only information I have about Bascom is what I have gleaned from his Senior Portfolio. He was born in Brookville, Kansas, on October 17, 1876. He prepared for M.I.T. at Rochester High School, Rochester, N. Y. At the Institute he was vice-

president of the Naval Architectural Society and the subject of his graduation thesis was: "Waste Heat Principles Applied to Internal Combustion Engines."

On June 9, 1955, Julius L. Hecht, S.B. Course II, passed away at his late residence, 2044 Elmwood Avenue, Wilmette, Ill., and again I have no details regarding this classmate, or the circumstances of his death.

On June 3, 1955, Roy D. Mailey, S.B. Course VIII, passed away at 58 Salem Street, Andover, Mass., where he had resided for some time. Again the Senior Portfolio furnishes some bit of information. Roy D. Mailey was born in Lynn, Mass., on August 13, 1882. He prepared for Tech at Lynn English High School. At M.I.T. he was a member of the Electrical Engineering Society and of the Chemical Society.

On August 16, 1955, Alpheus C. Lyon died at his ancestral home, 735 Main Street, Bangor, Maine, where he had lived all his life and August 16, 1955 was his 75th birthday. Mrs. Lyon wrote to President Carle Hayward and upon my writing to her to extend the class sympathy she sent me the following letter: "My son, Al, Jr., joins me in thanking you for your very kind letter about Alph, Sr. He served with the Rocky Mountain Bell Telephone Company before coming to Maine in '07. After that he did practical work with the Maine Central Railroad until he began teaching — which he loved. His two honor societies were Tau Beta Pi, and Phi Kappa Phi. His social fraternity was Phi Gamma Delta." From this we get a very interesting picture of the life of one of our classmates. From Mrs. Lyon's letter, he was a professor at the University of Maine where he taught in Civil Engineering. On November 14 I received from Carl Hayward the following clipping from his Quincy, Mass. *Patriot Ledger* of November 11, 1955, announcing the death of Herman O. Blatt. I remember Blatt very well as he was a performer in the Tech Show "The Grand Dukes" in our freshman year. I think he was one of the principals while I was only a chorus girl, but a good time was had by all in productions. "Herman O. Blatt, father of City Manager Donald H. Blatt, died this morning at Quincy City Hospital after being stricken with a heart attack last night at his Pembroke home. Mr. Blatt was born in Lead, S. D. He attended M.I.T. and was a member of Sigma Alpha Epsilon fraternity and the Royal Arcanum Lodge, Hyde Park. Mr. Blatt was in the wire and cable business in Canada and in Buffalo, N. Y., and for some years he was in the candy business. He was employed by the Simplex Wire and Cable Company in Cambridge for about fifteen years, retiring six years ago."

This brings to a close our notes for this issue. I am sorry indeed that they are all concerned with departures from our ever diminishing members, but I hope for more cheerful happenings for our future notes. As you read this I hope you will have a happy remembrance of a bounteous Thanksgiving day dinner, a well-remembered Christmas day with lots of presents and that you are all starting on a New Year which will be happy and

joyous throughout. My best wishes to you all. — HENRY W. STEVENS, *Secretary*, 1082 Commonwealth Avenue, Suite 18, Boston, Mass.

• 1905 •

Sure the days in summer are longer, but how short the interval of 30 days can be, beginning September 15, when Class Secretaries begin writing their columns for *The Review*, hoping on each of the 30 days, some classmate will write a bit of news to make the task easier or more complete. Don't think the events in your life or that of your family are trivial or uninteresting to your classmates. Sixty '05 men sat and "chewed the fat" for two days at our 50th reunion and much, I dare say, was of personal doings since 1905. You may not have another chance for a year or five years to commune personally, but you can through this clearing house. What you write on reading this will not appear in this column until the March issue, but if you get the habit, two hundred and fifty '05 men will benefit, including your Secretary. There have been several letters since Gib and Elizabeth Tower's story of the 50th reunion appeared in the November issue, all commenting on this most excellent report and expressing appreciation of a consecrated effort.

Arthur Manson, VI, of Houston, Texas, was unable to attend the reunion, but did come "back home" in August to visit relatives here and in Maine. Although I missed him, he left his best regards to those who might remember him. Frank Payne, unable to come east in June, received several personal letters from those who did attend, says his health is better and he is planning to be on hand at the 55th. Frank Webster of Coral Gables, Fla., who was obliged to cancel his reunion reservation because of an operation in a Chicago hospital, writes that he was able to go back to Florida after two months of convalescence and expects to attend the next reunion.

Clarke Warren, II, of Traverse City, Mich., thinks there should be a prize at the next reunion for the grandparents travelling the farthest to greet a new heir. Says his youngest daughter may go to Iran. Draw your own conclusions. Clarke and Louise have seven granddaughters and two grandsons. Ruth and I are still planning to use that new luggage to travel to see our youngest daughter and, by jingo, there's the extra incentive to greet grandchild number seven about next May. Charlie Smart, II, and Mrs. Smart have been to England, then to the North Cape and Norway since the reunion, also to Munich on business. Walter (Bobby) Burns, V, who also missed the reunion on account of the illness of his wife, later had an operation losing part of his tongue, but says, "I can still lisp." They expect to spend part of the winter in Florida. Mrs. Brownell writes that Frank (Course VI of Winnipeg, Manitoba) is not well and she fears they will not travel East again.

Joe Daniels, III, writes from Lahore, Pakistan, appreciative of the group message sent him from the reunion. It took forty days, but he wishes to reciprocate and send his regards to all signers. He

adds, "My work remains interesting in spite of many frustrations. Lahore has been very hot with many days well over 100 degrees and too many at 110 degrees." Probably reminds him of the mining lab in the basement of Rogers (old Rogers, I mean).

We have a two column clipping from the *Wall Street Journal* of May 16 telling of Len Cronkhite's "dive" into nuclear realms. His firm, the Atomic Instrument Company, makes sensitive devices for atomic energy testing and research and for industrial and medical use. The article is too long to quote here, but drop in at 84 Massachusetts Avenue, Cambridge (directly opposite the main entrance to M.I.T.) and see and hear for yourself. It is a story of remarkable progress and contribution to the atomic age. A two-page clipping from the *Standard Times*, New Bedford, Mass., October 11, 1955, shows a picture and tells quite a story of Norman Lombard, II, whose mission since 1950, when he founded the Institute of Applied Citizenship (1950), has been to get Americans interested in politics and "fight City Hall."

Under the caption "The Golden Years," *The Times Picayune States* (a new paper printed in New Orleans, Louisiana) tells the life story of Chester Allen, I, now of Olivet, Mich. Chet started teaching civil engineering at Pennsylvania State College, then at Gettysburg College, then, in 1919, moved to Michigan State College, where he taught for thirty years. On retirement, he accepted a professorship at Clarkson College. His health failing, he again retired to the little college town of Olivet, Mich. But at age 68, he started again "helping senior citizens find their way into the Golden Years." He started teaching an adult education class, then took over the job of organizing civil defense in that area. Soon the town council of Olivet persuaded him to accept the position of consulting engineer for the town, which position, according to the article, he still holds.

Talk about a chip off the old block! Andy Fisher announces that his grandson, Andrew Fisher, 4th, 11 years old, has been assigned a column in the *Auburn* (Mass.) *News* under the title "Around Auburn with Andy." One of his recent bon-mots was "If you ever feel neglected, think of Whistler's father." Young Andy should inherit plenty of imaginative speech.

Some of us who talked with Gib Tower at the reunion will remember his telling of the work of his son, Daniel as Curator of the Old Slater Cotton Mill at Pawtucket, R. I. He was doing very excellent and interesting research and reconstruction work, when he died suddenly, age 40, leaving four children. Our deepest sympathy to Gib and Elizabeth. — FRED W. GOLDTHWAIT, *Secretary*, 274 Franklin Street, Boston, Mass. GILBERT S. TOWER, *Assistant Secretary*, Cohasset, Mass.

• 1906 •

You will read these notes just after January 1, 1956, so New Year's greetings are in order with a reminder that this is the big year for 1906, with our 50-year Reunion just over five months away. The

first general letter outlining our plan for the celebration in June was sent to the 274 names on the class list on October 16. At this writing (Nov. 14) we have had replies from sixty-four, 50 per cent of whom are planning to attend all or part of the big celebration next June, twenty are doubtful and ten responded with a definite "no." This may not sound very encouraging but there are many of the Class yet to be heard from. Within a few weeks of the time you read this another notice will be sent to the Class to give classmates an idea of those planning to attend and the other up-to-date developments on the big celebration. A general mailing to the Class is usually productive of information which can be used in these notes. For example, we have this from John H. Cady, an architect of Providence, R. I.: "Your notice of the 1906 M.I.T. 50th Reunion has been received. I do not expect to attend it. My only personal contacts during two years at Tech were fellow students in the architectural course, and I regret having been out of touch with them for many years. I should be interested to learn the names of the 1906 architectural survivors. My principal academic affiliation is with Brown, where I had my 50th reunion in 1953. I enclose check for \$5 as a token of good will and best wishes for a successful celebration next June."

The Secretary has written a note of appreciation to Mr. Cady for his expression of good will to M.I.T. '06. A note received from Henry S. Hubbell reads in part as follows: "I did attend the 40th with Walter Clifford and we planned on the 50th but he has passed on. However, I think I will appear alone. Walter and I were from Fitchburg along with Abe Sherman. I was only at the Institute two years. Rheumatic fever knocked me out, or so it was diagnosed — probably incorrectly as I never experienced any of the usual after-effects. Any way, I lost 50 lbs. and was six months getting it back and never returned, which I regret, so I am more or less an outsider. I retired several years ago." Henry was at one time vice-president of the United Shoe Machinery Company in Boston.

Guy Ruggles wrote that he and Mrs. Ruggles had intended to come but six months ago Mrs. Ruggles had two attacks of cerebral thrombosis and her present condition was such that it would not be possible to make plans for next June.

The notice to Frank A. Browne, XIII, of Wayne, Pa., brought a reply from Mrs. Browne that her husband was fatally ill. Browne was connected with the Barber Asphalt Paving Co. for twenty years and his last business address showed him to be in their Philadelphia Office.

William Couper, I, who retired as Executive Officer of the Virginia Military Institute, Lexington, Va., at the end of 1954, had planned to attend the 50th but the dates conflict with the closing of the year at V.M.I., and the possibility of seeing "hundreds of returning friends" led him to decide to stay in Lexington.

Stewart Coey dropped into Joe Santry's office early this fall and found him leaving for Europe. He flew across and back and, in approximately five weeks, visited many of the Combustion Engineering

Company's installations and manufacturing plants situated in England, Holland, France, West Germany and Switzerland. The entire trip was made by air and included a board meeting in England, then to the continent, returning directly from Germany to the States with an unscheduled stop in Iceland due to a storm over the Atlantic.

The last two weeks in October your Secretary and his wife flew to Denver to visit some former neighbors who now reside there. Before leaving the Secretary checked the new Alumni Directory to obtain the names of Denver classmates and found two, viz.: J. P. Varian and Clifford R. Wilfley, both Course III. While in Denver these two were contacted by phone. Varian is now with the Colorado State Highway Department, devoting his time to plans for public highway layouts. The early part of his career after leaving Tech was spent in his profession as a mining engineer but more recently his health has necessitated less active work which accounts for his present position.

A phone call to Wilfley disclosed that he resided not far from where we were visiting and so he hopped in his car and had a visit with the Secretary. He is a consulting mining engineer and at the present time is doing active work in connection with the mining of uranium. On Sunday, October 30, Wilfley called up and suggested we ride out to look over one of the uranium properties. This was most interesting. The mine was located in Morrison not far from Denver and as the Geiger counter showed the presence of uranium, Wilfley had taken borings which resulted in sinking a shaft and already uranium ore has been shipped. Wilfley hopes to come to Boston to the celebration next June.

The Secretary regrets to report the death of three classmates at this time: The first seems quite close as on October 29th a postcard was received from George Hobson stating that Ray Barber, III, had died very suddenly. Just previous to this Barber had replied to our Reunion questionnaire with a statement "It's a long way from here, Jim, but the wife and I will try and make it." Another letter has been received from George Hobson under date of November 9. Mrs. Barber wrote George that "Ray was ill only four hours. We had planned to go east this summer to see you and the 50th Reunion and then abroad for six months." At the time of his death Ray was curator of mineralogy and metallurgy at the Los Angeles County Museum. Boston classmates will remember that Ray was in Boston from 1913 to 1918 and at one time lived in North Reading; but the most of his career had been spent in the west. He was married twice and had two children by his first wife. He also is survived by his widow, Mrs. Edith A. Barber, whom he married in 1922. The Secretary has received notice from the Alumni Association indicating that John Blatz, I, of Milwaukee, Wisc., died in 1945. As this agrees with the Secretary's record, it is possible that this death had been reported at that time.

Joseph H. Feemster, VI, died October 27, 1955. He was with the Worthington Pump and Machinery Corporation at

Tulsa, Okla. From the Secretary's record, he had been in Oklahoma since 1920. No other details are available. — JAMES W. KIDDER, *Secretary*, 215 Crosby Street, Arlington 74, Mass. EDWARD B. ROWE, *Assistant Secretary*, 11 Cushing Road, Wellesley Hills 82, Mass.

• 1907 •

On the evening of November 4 Dick Ashenden, Gene Banfield, Bill Coffin, George Crane, Bill Egan, Tom Gould, Bob Rand, Don Robbins, Oscar Starkweather, Phil Walker, and Bryant Nichols defied high wind and pouring rain and gathered in a private dining room at the M.I.T. Faculty Club in Cambridge for a delicious dinner and a few hours of class comradeship. Phil Walker told of a half-hour visit that he and his wife had last September, when they were on vacation, with Clarence Howe in his office at Ottawa, Canada. Phil and Anne also tried to see Kenneth Chipman in Ottawa, but they found that he was still away at his summer place. I gave a few facts regarding progress of our Class 50-Year Gift Fund, to be presented to the Institute in June, 1957, and then introduced the speaker of the evening, Norman C. Dahl '52, Sc.D., Associate Professor of Mechanical Engineering at M.I.T., and chairman of the Freshman Advisory Council. He held the close attention of our group for an hour or more as he explained the operation of this Council, giving us facts and information about it as outlined on pages 53 and 54 of the November, 1955, issue of *The Review*, where his talk at the Alumni Officers' Conference last September was reported. We all agreed that attending Tech in 1956 is a far different proposition than it was in 1903-07!

Referring again to Clarence Howe, who, as you all must know, is Minister of Trade and Commerce for Canada, on last October 14 he was presented with a testimonial plaque and the key to the city of Port Arthur, Ontario, Canada, at a special civic dinner held there to mark the 20th anniversary of his election as Member of Parliament for Port Arthur. The program included a parade and a school holiday besides the dinner. Clarence and his wife were guests of the city for the celebration.

An item in the Boston *Herald* recorded the death on October 26, 1955, of Fred C. Mabee, who was associated with our class in the course in chemical engineering. He was graduated from McMaster's University at Hamilton, Ontario, in 1904, and after graduate work at Harvard and at M.I.T., became instructor in chemistry at Shanghai University, China, which was operated by the Northern Board of Baptist Missions. After 14 years of service he returned to the United States, and in 1927 obtained a Ph.D. degree at Columbia University. He was appointed professor of chemistry at Bates College at Lewiston, Maine, in 1930, was retired in 1953. He was professor of chemistry at Howard College, Birmingham, Ala., at the time of his death. He was survived by his wife, two sons, a daughter, and nine grandchildren.

Winslow D. Robinson, a graduate in Naval Architecture, died on October 18,

1955. For only one year did "Robbie" follow his chosen field of work. From 1908 to 1921 he was a salesman of "Dodge Reports" with F. W. Dodge Company, and then he entered the insurance business and was an insurance broker in Boston for the rest of his life. He never took any active interest in Tech or '07 affairs. When I was in business in Boston, I saw him frequently, and he was always a genial, cheery gentleman, full of optimism. In reply to a note of sympathy that I wrote to Mrs. Robinson, both personally and on behalf of our class, she wrote a lovely note to me on October 30, from which I quote portions that are not entirely personal: "Robbie had a slight stroke in October, 1951, and another one on January 31, 1955, which left him paralyzed on his right side. He gradually improved and after four months could walk around upstairs in our house. He was most unhappy about his handicap, as he was never without a heavy drowsy feeling. As usual on Monday, October 17, we took our walk in the afternoon, and looked at television in the evening. At 5 A.M. on Tuesday, the 18th, he called me, we exchanged a few words, he took a deep breath and was gone. He never felt any pain at all. He was able to keep in touch with his insurance business by telephone from home to office almost up to the end. . . . Our daughter and three sons join me in thanking you for your helpful note." Mrs. Robinson's address is 10 Hyde Street, Newton Highlands, Mass. — BRYANT NICHOLS, *Secretary*, 23 Leland Road, Whitinsville, Mass. PHILIP B. WALKER, *Assistant Secretary*, 18 Summit Street, Whitinsville, Mass.

• 1908 •

The first dinner meeting of the Class for the 1955-56 season was held on Nov. 16 at the Faculty Club in Cambridge, Mass., with the following on deck: Bunny Ames, Bill Booth, Nick Carter, Leslie Ellis, George Freethy, Sam Hatch, Winch Heath, Steve Lyon, Linc Mayo, Henry Sewell, and Joe Wattles. As usual, we met in the Cocktail Lounge, enjoying our favorite tonics and being brought up to date on summer activities while waiting for late arrivals. It being a wet and foggy night, trains and auto traffic was delayed. However, about 7 P.M. we adjourned to our private dining room for the usual excellent dinner. We missed Myron Davis, who usually came, but he retired from United Shoe on Sept. 1, and soon after took off by auto for Mexico, with stops at friends on the way. I hope he gets some interesting Kodachromes to show us upon his return. Learned that Steve Lyon, an authority on stamps and coins, served as a judge at a recent philatelic meeting at Washington, D. C. Several of those present seemed to think we should have a reunion this June on the Cape before Alumni Day, June 11. After discussion, it was decided to see what hotels would be open at that time, and report at the next dinner meeting. It was also decided that our ladies would be invited to attend.

On a card received from George Belcher of Harwich, Mass., before the dinner, he said, "Dick Collins and I celebrated our 69th birthdays at Dick's

house at North Eastham, Mass., with a party of eight. He served oysters, little necks, and wild duck which he had shot. Retirement is the life."

Am sorry to report the deaths of the following classmates: Warren W. Karnan at Westborough State Hospital on Feb. 22, Francis V. Reyburn at St. Louis on March 24, George C. Mason at Warwick, Va., on May 20, Amos H. Dows at Lowell, Mass., on Oct. 31.

If you haven't subscribed as yet to the 1956 Alumni Fund won't you do so right away? The class did well last year. Let's keep up the good work, and build up '08's 50th year gift to the Institute. The second dinner meeting of the 1955-56 season will be held at the Faculty Club on Wednesday, January 18, 1956. Hope you can be with us with ideas for our June '56 Reunion. How about sending some news?—H. LESTON CARTER, *Secretary*, 14 Roslyn Road, Waban, Mass. LINCOLN MAYO, *Assistant Secretary and Treasurer*, 47 Alton Place, Brookline, Mass.

• 1909 •

We have received a clipping from the Cleveland (Ohio) *Press* telling of the retirement last summer of Morse W. Rew, I, as chief engineer of the Cleveland Transit System. A photograph in the clipping showed him at his desk with his chin resting on his right hand, a pipe in his left hand, apparently studying a blueprint on the desk. He had been with C.T.S. since 1922 and most of his working years prior to that time were spent in public transportation. Shortly after graduating from the Institute, Morse went to Cincinnati where he worked at public transportation and designed a subway which was built but never used because the era of interurban cars came to an end. In 1913 he transferred to Pittsburgh where he spent a short time with the transit commissioner. This was followed by some transportation work for the government in World War I and after that he went into the general contracting business. In 1922 he came to Cleveland where he worked on C.T.S. finances and research, directed the transportation department, and headed the power department. In 1943 he was made chief engineer and for the past few years he has planned and organized the construction of the new Rapid Transit. Morse and his wife live at 3986 Bluestone Road, Cleveland Heights.

At different times in these notes we have told of the reputation that Charlie Belden, II, had attained as a photographer, particularly of far-away spots. Lewis Nisbet, I, has just sent us a clipping from the St. Petersburg, Fla., *Times* stating that Charlie has been spending some time in terrorist-ridden Morocco. He describes his experiences as follows: "Arabs are all around us. We have momentarily been expecting to have a hand grenade served up as an hors d'oeuvre but we are still the untouched innocent bystanders. Last week the score in Casablanca was 10 for the morgue and 44 for the hospitals. We have the car plastered with the good old Stars and Stripes, which even the most ragged peasants recognize as 'Americano.' The country

and the people are certainly rugged and the French have a tough job on their hands. A year ago there were a scant 10,000 troops in North Africa but now, I understand, there are well over 100,000. We have met tanks, truck loads of soldiers, and sundry military equipment bristling with machine guns along the road, but have not been on any firing lines. Travel at night is not permitted, which is all right with us as we have always had good hotel accommodations. We came into North Africa at Tangiers, the free Safi, Mogador, Agadir and east to Taroudant; from there over the main range of the Atlas Mountains through famous Djema-El-Fna. Over Decoration Day we were surrounded by boys from the big Air Base at Ben Gourir. Northward through Beni-Mellal to Meknes and Fes and then to Algiers on the Mediterranean." Mr. Belden was entertained at the Souk Chegegga by the Caid at a mint tea party. He tells of slaves washing his hands before and after the meal. He describes the saddles on the beautiful Arabian horses as "really something." Many of you will remember Charlie as the "glamor girl" of the Tech shows of our time.

Lew did not say anything about himself but did send us "Love and Kisses." For some time, however, we received regularly twice a year his changes of address—St. Petersburg in the fall and Yarmouth, Maine, in the spring—but now it is South Kent, Conn.

In the November Review we told of the appointment of Barnaby Keeney, son of Bob, as president of Brown University. Bob has written us the following: "Monday, October 31, when my son Barnaby was installed as President of Brown University, was the greatest day of my life. I had the honor of marching in the academic procession as delegate of my other Alma Mater, Colorado School of Mines, with representatives of 83 institutions, including 30 college presidents. The procession was very colorful, the installation well managed, and the weather perfect. Barnaby's address about the ancient Brown Charter and the free university was excellent and his delivery was superb, I must admit. It was a wonderful day. The photographers had a field day with me as father of the president."

We received a notice of the death of Joe Hathaway, VI, on July 30 at Montclair, N. J. We wrote to Mrs. Hathaway expressing the sympathy of the Class as well as our own. She wrote as follows: "Joe had not been well for quite awhile, had a cataract on one eye which could not be operated on, and had an incurable heart condition. He wasn't confined to the house; in fact, he had been to the doctor that day and puttered in the yard. I left him watching TV when I went to bed and when I got up in the morning he had passed away some time in the night in his sleep. A nice way for him to go but rather hard on me finding him. It is comforting to know that he didn't suffer at the end. After he graduated from M.I.T. he went with the A. T. and T. Co. but only for a few years, then asked to be transferred to the Western Electric Co." Joe was born in Middleboro, Mass., 70 years ago and prepared for the Insti-

tute at Middleboro High School. We in Course VI remember him as quiet, earnest, and well liked by all of us. In Montclair, N. J., he was a former treasurer of the Montclair Lodge of Masons, a member of the First Methodist Church, and the Thayer Chapter of Telephone Pioneers. Surviving are his wife, Mrs. Sarah Vaughan Hathaway, a daughter, Mrs. J. W. Williams of Wilmington, Delaware, and two sons, Edward W. of Brooklyn and Vaughan of Boothbay Harbor, Maine.—CHESTER L. DAWES, *Secretary*, Harvard University, Cambridge 38, Mass. *Assistant Secretaries*: HARVEY S. PARDEE, 549 W. Washington Street, Chicago 6, Ill. MAURICE R. SCHARFF, 366 Madison Avenue, New York, N. Y. GEORGE E. WALLIS, Wenham, Mass.

• 1910 •

It is with extreme regret that I have to announce the passing of William H. Wengert on July 1, 1955, at his home in Baldwin Park, Calif. I have no further information as this notice was received by the Alumni Office from his wife.

John Bierer, President of the Boston Woven Hose Company, reported in September that his company had the largest sales of any month in over three years.

The following is from the November 3rd issue of the *Engineering News Record*: "Ridgway M. Gillis, deputy state highway engineer, will retire next week after 26 years of service with the California Division of Highways. Gillis was an early advocate of cement treated base construction and has helped California stretch the highway dollar by adding a small percentage of cement to available local base materials, thereby reducing the total thickness of base and pavement required. Until he became deputy highway engineer, he headed the construction, maintenance, equipment and materials and research departments as assistant state highway engineer in charge of operations. A graduate of Whitman College with a B.S. degree in civil engineering from Massachusetts Institute of Technology, Gillis held various engineering jobs, including service with the Washington State Highway Department and the Pacific Bridge Company, before joining the California Division in 1929. Starting as a district construction engineer, he served for nine years as construction engineer for the Division of Highways, before his appointment as assistant highway engineer in 1947." Both Carl Lovejoy and Jack Babcock sent me the above clipping.

I had luncheon with Jack Babcock and Hal Manson a week or so ago to discuss an issue of the *Mitten*, giving the highlights of our 45th Reunion. We hope to have this in the mail within the next three weeks.—HERBERT S. CLEVERDON, *Secretary*, 120 Tremont Street, Boston, Mass.

• 1911 •

With sixteen classmates in attendance, we had a most enjoyable annual "Seven Come '11" class dinner on the seventh evening of the 11th month at the M.I.T. Faculty Club in Cambridge. Included in the attendees were two classmates whom we haven't seen for a long time: Ed Sis-son, I, successful owner of the American

Architectural Iron Company in East Boston, and Harold Lord, II, of Arlington, who retired last January from Hollingsworth and Whitney Company, Boston. Rounding out the quadruple quartet of Eleveners present were E. J. Batty, II; Oberlin Clark, II; Marshall Comstock, VI; Dennie Denison, VI; Henry Dolliver, I; Tom Haines, II; Jack Herlihy, II; Charlie Linehan, I; Roger Loud, VI; Maurice Lowenberg, VI; Roy MacPherson, II; Morris Omansky, V; Carl Richmond, I; and O. W. Stewart, I. G. Arthur Brown, X, had planned to come down from Lowell, but at the last minute found he couldn't. Conflicting engagements also kept John Alter, IV; Carl Ell, XI; Fred Harrington, I; "Bog" Stevens, IV; and Emmons Whitcomb, X, from attending, but all sent greetings, as did Class President Don Stevens, II; Vice-president Howard Williams, XI; Bill Hodgman, II; and Ed Vose, XI, the latter two being away on trips, Bill on a western business trip and Ed in Acapulco, Mexico.

The talk around was most interesting; just half of the 16 stating they were now retired. Batty is still in charge of construction and maintenance for Lincoln Stores, has one married daughter and two grandchildren. Clark still heads Nelson Cement Stone Company, which is this year having its best year in the company's history. He is also first vice-president of the Quincy Cooperative Bank, to which he gives about half his time, being also mortgage officer and a member of the executive committee. It is the largest cooperative bank outside of Boston and third or fourth largest in Massachusetts. Comstock is now in his third year of retirement from Wagner Electric Company, Boston, and he and his wife spend four and a half months of the spring and summer annually in Cushing, Maine, near Thomaston, where they have a fine vegetable garden, among other things.

Dennie sounded a sad note when he announced that two days earlier his wife, Sara, had fallen while doing altar work at St. Andrew's Episcopal Church in Framingham and sustained a double fracture of the right upper arm. He is very happy in his Chamber work in his home town and even now is still meeting old friends there whom he recognizes or who recognize him. He and Sara have two married sons and one married daughter and eight grandchildren. Dolliver also reported that his wife, who had been in an accident, fracturing her left ankle September 3rd, and being in the hospital for six weeks, is slowly getting her strength back. They have seven grandchildren and Henry plans to retire from Jackson and Moreland, Boston, next spring. Haines retired from Boston Edison in December, 1954, and is now doing consulting work. He and Mildred have two married daughters and three grandchildren.

Herlihy is starting on his second year of retirement, also from Boston Edison, and maintenance work around their Malden home, he said, is his principal occupation now, although he is also on the board of directors of the Malden Hospital. He and Mabel have nine grandchildren, one having arrived in '55. Linehan is still teaching mathematics at

Rindge Technical School, Cambridge, and he brought greetings from Art Leary, I, unable to attend. The Linehans' daughter is a senior at the College of the Sacred Heart, Newton. Lord, retired for 11 months, described himself as a "domestic engineer" and says he is enjoying taking it easy. One married daughter has three children, while another daughter is editor-in-chief of the *Progress Magazine* of the Connecticut Light and Power Company and has won a number of prizes for the publication in industrial publicity fields.

Loud has been retired from Boston Edison for two years, but he and Esther still maintain their big house in Weymouth so that they can have room for their children when they visit. Their oldest son is on sabbatical leave this year from the University of Minnesota, where he has taught mathematics for seven years, and although he already has his Ph.D., he is studying more advanced mathematics this year. Their younger son plans to get his Ph.D. this June. Lowenberg retired from Stone and Webster, Boston, in January, 1955, and is doing some consulting work and part time teaching at Franklin Technical Institute, Boston, where Ralph Adams, II, is in charge of the electrical engineering course. This allows Maurice and his wife to travel, they having had a most enjoyable stay in the Canadian Rockies last July.

MacPherson has just finished getting his boat out of the water at Quincy and housing it for the winter. He is also teaching meteorology a couple of nights a week and some navigation. He and Ina still reside in Framingham and have one married daughter, who lives with her husband and two daughters in Michigan City, Ind. Omansky is still active in consulting work in rubber, with more clients than ever at present and more and more litigation work. A number of the rubber companies have entered the plastics field, so Morris has to keep his finger on that pulse. He has four grandchildren. Richmond, retired two and a half years, said he originally dreaded it but now enjoys it and has picked up a real hobby—color photography. He proved how adept he has become by showing us some remarkably fine color slides at the conclusion of the talk around, these including a number of shots of our 1951 Reunion and some fine detail shots, with a climax feature showing the birth and early development of some bluejays, which were just out of this world. Their oldest boy, just out of the Air Force this summer, is now at the Lincoln Project at Bedford Air Base; their second son is a jet-fighter pilot in Arizona; and their youngest son, 12, is now in Winchester Junior High School.

Sisson was making his first appearance at a class function in ages, but after dinner he told us that he'd not miss 'em any more! He is still owner and president of the American Architectural Iron Company in East Boston. He just plain doesn't want to retire, he said, and his oldest boy, a graduate of Brown University, is now in business with him and doing fine. The Sissons' daughter married a Tech man and he also is in the family firm. Stewart

said their twelfth grandchild arrived recently and they now have two boys and ten girls as grandchildren. He heartily recommends retirement and now has his Hyde Park home on the market, he and Gertrude now living year 'round on Elm Street, RFD 2, Kingston, Mass. They are both active in committee work and the work of remodeling their 200-year house has also kept them busy. As a member of the board of trustees of Huntington School, O. W. has become interested in educational trends and he is now chairman of the research committee of the Massachusetts Cultivated Blueberries Association. He said anyone that can invent an effective method of keeping birds away from cultivated blueberry lands will make a fortune.

Early returns from the first Reunion attendance indications, sent out in late October with class dues bills, are most encouraging. At this mid-November writing 22 classmates have indicated their chances of attendance at our 45-Year Reunion at Snow Inn, Harwichport-on-Cape Cod as excellent, 16 of them planning to bring their wives. These include: Caldwell, Comstock, Paul Cushman, Denison, Minot Dennett, French, Haines, Joe Harrington, Lowenberg, Morse, Richmond, Hal Robinson, Simonds, Don Stevens, Stewart and Wilkes, all with their wives; and deFlorez, Dow, Gardner George, Kellogg, Runels and Young, all planning to come stag. Then too we've heard from another 14 who indicate chances are fair: Alling, Coburn, Cowee, Daniels, Dolliver, Duffett, Ell, Glazier, Linehan, Harold Lord, McManus, Omansky, Tisdale and Bun Wilson. In addition there are 29 who unfortunately figure their chances of attending as poor.

We are pleased to announce that Carl Richmond, I, has agreed to be Chairman of the 45-Year Reunion and he will announce his committee in the next class publicity. Watch for it!

Among the junior Eleveners, the engagement of Miss Joanne Frances Harrington, daughter of Joe and Rose Harrington, VI, of New Rochelle, N. Y., to Charles Henry Regan, Jr., of Scranton, Pa., has been announced. Joanne is an alumna of the College of New Rochelle and has an M.A. degree from the Pius XII Institute in Florence, Italy. She is with the Metropolitan Museum of Art, New York City. Her fiancé, an officer in the Naval Reserve, studied at Middlebury College and was graduated from Brown University.

We learn that our Admiral—Luis deFlorez, II—has been elected a director of Pioneer Parachute Company, Manchester, Conn. In addition to his own engineering practice in New York, Luis is currently on temporary active duty with the Office of Naval Research and a member of the Naval Research Board, doing dirigible and balloon work. Said the *Hartford Courant*: "A native of New York, a descendant of old Spanish and French families, de Florez was awarded the Collier Trophy for his now famous special Navy flight training program, which played an important part in saving American lives during World War II and the Korean War. He is one of America's leading authorities on aviation and aero-

dynamics, with more than sixty inventions to his credit, two-thirds of which he gave, royalty free, to the Navy." More power to you, Admirall

Franklin Osborn, III, is afraid he'll not be in the States at Reunion time, for he plans to return from his Vineland, N. J., home to Potrerillos, Chile, South America, November 20th, still with the Andes Copper Mining Company. Acknowledging a congratulatory letter I sent him after the initial program of the new Alcoa Hour TV program, Bun Wilson, who made a personal appearance that evening as President of the Aluminum Company of America, modestly wrote: "I am pleased that you found this first Alcoa telecast of interest and feel that it was well done. As far as my own part in the telecast is concerned, I can assure you that I find any such experience very humbling and discomfoting, but I am told that is part of my present job . . . I would like to think that I would be able to make the 45th Reunion next June and certainly will do everything possible to keep that time open." Had a card from Jim and "Toni" Campbell, I, from Charlottesville, Va.: "Stopped here overnight on way to prep school reunion at Woodbury Forest, then a visit to the old home in Albermarle County." Clarence Dow, I, now retired and living in Rochester, N. Y., and hoping to get to the Reunion, wrote that he had part of his stomach removed a year ago and is "grounded," with "no golf, no bowling, no nuthin'," but he is "still alive."

Ottillie Cushman writes that Paul, VI, has just finished a year and a half as president of the University of Michigan Alumni Club of Oklahoma City and is Worshipful Master of Hiram Blue Lodge this year. They are planning to come East for the Reunion. Aleck Yereance, I, retired and living with his wife in Arlington, Va., writes: "Busier than that famous one-armed paper-hanger with the two cats on a tin roof. I've had none of the leisure one expects upon retirement. Between taking care of a house, a car, four or five radios, a TV set and occasional baby-sitting the four grandchildren nearby, there just aren't enough hours in the 24 to justify looking for a gainful occupation. I cannot understand what is wrong with people who are bored with life after retirement. We spent a comfortable and pleasant four months this summer in West Harwich (Cape Cod) and are looking forward to the Reunion at Snow Inn, June 8-10." He also thoughtfully enclosed another Kenneyana clipping. S. C. "Vic" Willis, I, is still resident manager for the J. G. White Engineering Corporation of New York on the rehabilitation of the 74th street generating station of the NYC Transit Authority. "We have a program which extends into 1960," he writes, "and this 1911 M.I.T. Civil will no doubt give out before the job does, but I am thankful I have the health to be able to go to work every day. I am going to keep the June dates in mind and try to be at Snow Inn." C. L. "Pop" Hufsmith, VI, President of the First National Bank of Palestine, Texas, writes that he is "enjoying good health, having lots of fun (of the three-score and ten type), trying to get caught

up on my fishing, and if it weren't so far up there, I'd come to see you." "Bog" Stevens, IV, is now associated with C. J. D'Amato Associates, consulting engineers and architects, 462 Boylston Street, Boston, and C. H. S. "Fat" Merrill, I, has left Milton and is now living at 20 Pine Street, Exeter, N. H.

These notes will appear in early January and if you happen to be in New York City on January 10th, be sure to attend the 1911 "Welcome to Dennie" Luncheon at the Architectural League on East 40th Street. Also be sure your 1956 calendar has those magic dates of June 8, 9 and 10 circled for 1911's 45-Year Reunion at Snow Inn, Harwichport-on-Cape Cod and Monday, June 11th, for Alumni Day at M.I.T. Watch for future announcements from Chairman Carl Richmond and the Reunion Committee. A Happy and Prosperous and Healthy New Year to you all! — ORVILLE B. DENISON, *Secretary*, Chamber of Commerce, Framingham, Mass. JOHN A. HERLIHY, *Assistant Secretary*, 588 Riverside Avenue, Medford 55, Mass.

• 1912 •

News has just been received of the death of Walter F. O'Brien who passed away in Denver in October. After graduation at M.I.T. Walter served overseas as a machine gun instructor during World War I and then worked in New York and Alaska. He has been associated with the Western Appliance Association recently. Surviving him is his wife.

Dr. John A. Allan passed away in May this year in Alberta, Saskatchewan, where he was formerly the head of the department of geology at the University of Alberta, previous to his retirement 5 years ago. He was with the University for nearly 40 years going there directly from the Institute after graduation. While at the University, Dr. Allan built up a large collection of minerals and fossils making the geological museum at the university one of the best in western Canada. He was active in the Research Council of Alberta from its formation and was responsible for the establishment of the Alberta geological survey. He specialized in the mapping of coal fields together with general studies in geology throughout the province and in the Rocky Mountains. In recognition of this service a mountain was named after him in the Banff area.

Tom Fisher has retired to Cotuit on the Cape after having spent most of his life in Mississippi. He spends his time catching up on reading and in his hobby shop, besides going after stripers in Nantucket Sound. He would be delighted to welcome any classmate when they are near Cotuit.

Charles A. Cary has retired as vice-president and member of the Executive Committee of the Du Pont Company after a career of 37 years that began on the production line of a black powder plant. He retains his position as a member of the Board of Directors.

Charles has been a member of the Board of Trustees of Bowdoin College since 1951. He received a degree of Master of Arts from Bowdoin in 1950. He has been a member of the Board of Di-

rectors of Remington Arms since 1947 and Chairman of the Board of the International Freighting Corporation since 1948, and has recently been elected a member of the Board of Directors of Delaware Power and Light Co.

He has been very active in civic affairs, being internationally known in various activities of the Y.M.C.A. and has had a deep interest in the affairs of the Presbyterian Church. He was president of the United Community Fund of Northern Delaware in 1953. He is now serving as Chairman of the North American Advisory Committee, International Missionary Council.

May I call to your attention the M.I.T. Alumni Fund which is serving a most important part in the Institute's affairs. In 1955, 49 per cent of the class contributed. The average contribution was \$45.70, making a total of \$4936. It would seem as though we could increase the percentage of contributors, and to that end will everyone who has not contributed send in a check, however small, to the M.I.T. Alumni Fund? — FREDERICK J. SHEPARD, JR., *Secretary*, 31 Chestnut Street, Boston 8, Mass. LESTER M. WHITE, *Assistant Secretary*, 4520 Lewiston Road, Niagara Falls, N. Y.

• 1913 •

"Come to Coonamessett June 8, 9, 10, and 11." Double or nothing. Yes, our Committee has taken over the New Coonamessett Inn for four days. Make your reservations early. We can house 50 people "on campus," but there are several motels or lodges in the near vicinity. First come, first served or would you prefer an allocation of roommates of your choice? Your Committee awaits your suggestions, or forever hold your peace. Do you want a four-day reunion or just an overnight visit? You are the deciding factor, but let us know what you really desire. Falmouth on the Cape has much to offer with its scenic drives, antique and modern shops (varied enough for any man's pocketbook), sea trips, fishing, boating, golf, or just good comfortable rocking chairs. These and more are at your disposal. You may be guided by your conscience, your wife or any other influence or circumstance which governs your life. Above all we want to see you come June 8th.

Here we are again. You will notice that we were delinquent in our duties and notes for the December edition. Yes, come December 1st your scribe will join the ranks of the unemployed, for I am completing my three-year contract with Boston Lying In Hospital. Thus I am retiring from the very active life as a hospital executive. Even my time is not dull preparing for post retirement endeavors. Between the interesting participation of research and workings of the Industrial Development Commission of Canton in which I am extremely interested, and my efforts to enter the motel business, organization and financing this project leaves very little opportunity to even correlate Class Notes. Art Hirst writes, "I have your card urging the '13 gang to send Joe MacKinnon a buck for dues. As your records may show, I have built me a home in Swansea, Mass., in spite of my

old age and decrepitude. Having moved from Rhode Island where there is no state income tax I feel a great thrill in paying one now. I am still pedaling around most of the East, servicing the textile mills for Standard Chemical Products, and am enjoying it more than when I was saddled with managing big finishing plants. I have nothing startling to report, but have broken into print again, having written a section on textile printing for a new book entitled "Chemistry and Chemical Technology of Cotton." At \$20 a throw for the book I doubt if it will flood the market. Good luck, Art. We welcome you back to Massachusetts. I received a check from Tom Byrne, Fort Worth, Texas, but no news. It seems that others besides our members read our notes, as Fred Murdock received a letter from a member of the Class of '04. He evidently took the ribbing seriously which we aimed at several of our classmates who live in our vicinity or from whom we have not heard in years and I quote, "E. G. Brown is doing government research at the Watertown Arsenal. C. L. Burdick has an important position at Du Pont in Wilmington and A. Butts is head of the Metallurgy Department at Lehigh University. He was editor in chief of an extensive monograph on copper recently issued by the American Chemical Society." To Carle R. Hayward, we thank you. Speaking of Al Butts, my wife and I enjoyed a two weeks' trip through the middle West, covering nearly thirty hundred miles by auto. While passing through Bethlehem, Pa., I talked on the phone with Butts. Due to earlier commitments we were unable to accept Al's kind invitation to visit him. He sends regards to all inquiring friends and classmates. You have all received the inspiring yearly letter from our beloved Class President Bill Ready. It should please you, that a few weeks ago your writer spent a most enjoyable afternoon with Bill and Neva Ready. Bill is recovering extremely well from his several ailments and is as you know him, "Just Plain Bill." Earle R. Lincoln, Holberg, B. C., has sent in his usual dollar and letter and I quote, "You ask for a story or account from each of us, but I haven't a great deal to boast of. Wait for five or ten years from now and I might possibly have something of more interest to write about." Earle, it is a pleasure to receive your yearly note. I wish that more of our classmates would do as much. "Hit and Run" Larry Hart has been to Boston several times during the last year; of course, he always sends his best to me when he sees my better half at Johns-Manville. Larry was one of the principal speakers at the Junior Achievement Association Dinner commemorating the 10th Anniversary of the founding of the Boston Association of Junior Achievement. Howard Currier is again on the move and he writes "Like many others who are now on a retirement basis, the daily routine does not furnish much grist for any news mill, so that it is easy to let things run along from month to month without much of interest to our classmates. However, I am enclosing a change of address card, and as you can see we are on the move again, this time will live in Montecito, which is adjacent

to Santa Barbara. To tell the truth, it was Jerry Lane who got us started in that direction, since after I visited him there in his nice new location for retirement, near Santa Barbara, I got ideas too and decided to get away from the much-publicized "smog" and other undesirable conditions existing in our present location in the Los Angeles area. "Have whipped up a set of plans for building a new residence on an acreage 'view' plot not far from Jerry's place, and hope to get going on it soon after we move. Have taken a small new place to rent temporarily, which is only two or three blocks from the Pacific, beach, etc. Finally succeeded in selling the home we have here, after quite a long period of agent's 'for sale' signs, etc. Best regards to yourself and please remember me to the group of good old stand-bys who are able to get together there for occasional meetings." Well, Howard, you sure sound like a "native son" and we are very glad that you and Jerry Lane will be neighbors. Al Townsend sent us the clipping concerning Larry Hart and his participation in the Junior Achievement Celebration, as the national chairman. Al also states "I bumped into Eddy Hurst in the library the other day, and Jim Russell drops in once in a while. Not so long ago I had some conversation with Ed Cameron, who is continuing to do editorial work for Jackson and Moreland. Charlie Thompson and I (Phil) have been together several times lately both at his home and mine. He still has a goodly supply of clean stories. Of course, Bill Mattson was again reelected alderman in the city of Newton. Over 10,000 cast their votes for Bill. You can't keep a good man down. We enjoyed a very pleasant visit with Bill and Ellen Brewster in Boston a few days ago. They are all set for our Interim Reunion at Coonamessett in June. Received a fresh letter from Allen Brewer, who is very critical of your scribe and the quantity of Class news or lack of them. We plead guilty and, Al, if the rest of you "Guys and Dolls" will favor us with news more often, we shall try to mend our ways. Allen in his retirement has published another treatise on "Basic Lubrication Practice," published by Reinhold Publishing Corporation, New York. Besides this, he has written many articles for the Petroleum Industry and Lubrication, a chapter on lubrication for the new McGraw-Hill handbook on Maintenance Engineering, and now is revising the chapter on lubrication for the second edition of the *Plant Engineering Handbook*. Good work, Allen. Keep on writing, and needle us some more, we like it. Our classmate David Stern has again made headlines in the Boston *Herald* on September 12, 1956. Dave and his family were among the sponsors of the new wing costing \$750,000 at the Jewish Memorial Hospital. Dave, we of 1913 are proud of you and yours. A very brief note was received from our senior scribe, Fred Murdock and I quote in part, "Time doesn't hang heavily on me. I have a shuffleboard court located in a small country place in central R. I., where we spend week ends. I am messing about pretty heavily in the art of good photograph (records and tapes) reproductions.

It's fascinating." I had the pleasure of spending an interesting hour with Joe Cohen in his palatial office at the Atlantic Gelatine Corporation lately. He is another classmate we can all be very proud of knowing. We have received a very short note from Mrs. Marguerite of Gainesville, Ga., stating that her beloved husband, Bolivar Buckner Ringo, passed away suddenly on June 3, 1955 in Babylon, N. Y. The Class of 1913 extends its heartfelt sympathy to Mrs. Ringo. Her loss is also our loss.

Address changes: Howard S. Currier, 76 Virginia Lane, Montecito, Calif.; Ellis W. Hartford, P. O. Box 341, North Palm Springs, Calif.; Rear Admiral Edward H. Smith, Woods Hole Oceanographic Institute, Woods Hole, Mass.; Lionel H. Lehmaire, 40 Denham Street, Poundsville, Australia; Allen F. Brewer, 314 Second Avenue, Avon-By-The-Sea, N. J.; Alfred Katz, 71 East 77th Street, New York 21, N. Y.; Lawrence W. Richardson, 115 Bentley Avenue, Tottenville, N. Y.; Robert Schulze, R. F. D. 1, Portsmouth, N. H.

Watch the February issue for further notes and plans for Reunion at Falmouth in June. — FREDERICK MURDOCK, *Secretary*, 88 Rumstick Road, Barrington, R. I. GEORGE P. CAPEN, *Assistant Secretary*, 623 Chapman Street, Canton, Mass.

• 1914 •

On November 3 Ray Dinsmore was presented the Goodyear medal for outstanding service to the rubber industry. This is an award conferred by the American Chemical Society. In addition to this award, *Chemical and Engineering News* of October 17 contained the following item regarding Ray: "An improved sense of professional responsibility among chemists and chemical engineers is a favorite topic of Ray P. Dinsmore, A.C.S. Rubber Division's 1955 Charles Goodyear medalist. Both in his day-to-day direction of research and development at Goodyear Tire and Rubber, where he is Vice-president for research and development, and in his activities in professional societies, he strives to build up professional attitudes among the younger men in the chemical field. He has been a vice-president since 1943. He is also vice-president and director of the Goodyear Synthetic Rubber Corporation and Goodyear Atomic Corporation, and director of Rubarite Corp."

In spite of his retirement from military service, Major General Alden Waitt manages to cover various parts of the world. It has already been noted in these columns that Alden had been traveling around South America. Now comes a card from Madrid, Spain, where Alden has been attending the International Congress of Industrial Chemists as a representative of the American Chemical Society. Last winter Alden was back studying and was at Trinity University of Texas at San Antonio. He notes, particularly, that he was on the honor roll and on the Dean's list, commenting that this was a rare and unique experience for him.

Another world traveler is Dr. Estus H. Magoon, who now appears to be located at Mexico City. His work as a consulting sanitary engineer for the International

Division of the Rockefeller Foundation has taken him to many countries. On the class address card, your secretary notes that Italy, Nicaragua, Jamaica, Havana, and Costa Rica have been places of residence for Magoon.

An article in the November issue of *Fortune* brought clearly to mind that Fourteeners are not as young as they were forty years ago. Already having made *Fortune* is Gerald Blakeley, Jr. Jerry, Senior, has retired after practically a lifetime with Johns-Manville and is doing consulting-engineer work. The *Fortune* article regarding his son, Jerry, Junior, comments in part as follows: "Gerald Blakeley, Jr., '34 is one of three partners in the Boston industrial firm of Cabot, Cabot, and Forbes Co., where his specialty is developing 'planned industrial districts.' In the last three years the firm has built twenty-eight factories worth \$30,000,000 in four centers near Boston. Currently Blakeley is negotiating to build another center in Hartford, Conn."

While changing trains in Chicago on a western trip, your Secretary had a chance to telephone Bob Patten. Bob is another classmate who has had long years of service with the same organization. He is an engineer with the Hotpoint Division of the General Electric Company in Chicago.

O. C. Hall, another retired classmate, writes that he is busier than ever. He is retired from the American Telephone and Telegraph Company and has joined United States Instrument Company, an independent telephone company at Charlottesville, Va. He flew up to Chicago recently to demonstrate some of his company's equipment at the Independent Telephone Association Convention. He describes some of the new techniques used in rural exchanges as well as in PBX boards. He emphasizes what is being done on frequency ringing. His company operates under a license from Siemens Halske at Munich. It would not be at all surprising to find that Hall had transferred to Munich one of these days.

It again becomes your Secretary's sad duty to report on the death of another classmate, Max M. Braff of Brookline, Mass. Braff took chemistry with us for two years and then joined the Medical Corps of the Navy. He made this his life's career. The latest record of Braff's activity was as a commander, although it is believed he held a higher commission. — H. B. RICHMOND, *Secretary*, 275 Massachusetts Avenue, Cambridge 39, Mass. H. A. AFFEL, *Assistant Secretary*, 120 Woodland Avenue, Summit, N. J.

• 1916 •

Our sincere best wishes to our classmates that 1956 will bring continued good health and happiness to all — Happy New Year! Murray Horwood helps us to start the new year off on the right foot with this very interesting letter: "Your request is like a royal command and so I am recording several items that may or may not be of interest. In 1952, M.I.T. agreed to undertake a project to rehabilitate the Engineering College of the University of Rangoon under a contract with the U. S. Technical Cooperation Administration. President Killian asked me to direct the

project. Mrs. Horwood and I left Cambridge in July 1952 and we did not return until June 1954. Two other M.I.T. men, Professor B. B. Brainard and Mr. Daniel D. Streeter, made up the team. We went out by way of the Pacific and returned by way of the Atlantic. I had the pleasure of addressing the M.I.T. Alumni Club in Honolulu, and Hong Kong on our way to Rangoon. On our way home we stopped in India, Lebanon, Cyprus, Greece, Italy, Austria, Germany, Switzerland and France.

Paul Duff pleased us with this letter: "No special news. I continue to 'surge.' Three very remarkable grandchildren. Son John is resident in Surgery at Boston City Hospital. One son in Army, in Germany. One son in U. S. in C.I.C. The 'Children' have seven college and post graduate degrees among them, so far. For what encouragement it may be to those of us who are of 'coronary age,' Mrs. Duff, who had a severe coronary occlusion 16 years ago, is well and carrying our big household on her shoulders while enjoying many outside activities. As all others in our class, I appreciate your work in keeping us in touch with each other." Thanks, Paul, it's really our pleasure.

Chuck Lawrance came through with this one: "Mighty glad you are back 'on the job' for 1916, and proud to furnish any assistance possible. Big reunion coming up in 1956, and I'll be there, if possible. As for me and my interests, no special change. Since 1947, been living 'retired' by heart and complications, but best of all I report new vigorous interests in life and all the things about us, for which I 'never could find time.' Even ancient military and economic history is worth studying. On the side am director of Civil Defense for this town (Kingston, Mass.) with the usual complaints about laggard interest and feeble responses from the local public. My family is almost all grown up and living from Maine to California (literally). 'Dr. Dick' Lawrance, the eldest, married and one child, is physicist for Datamatic Corporation, Newton. Dick got Ph.D. degree from M.I.T. at same time Chuck Loomis' son — see the Alumni Register. Second son, Charles H., M.I.T. and Yale, is design engineer with sanitary engineering firm of Koebig and Koebig, Los Angeles, Calif. He is married, with son and daughter aimed at M.I.T. — maybe! Third son, William J. (Dr. Bill) is practicing dentist in Indianapolis, and has a grand wife and four children. Our oldest daughter, Lee, is married to Jim Freeman, who is medical student at McGill University Medical School, Montreal. Life for them is beginning all over again after two rough years in Korea. Youngest daughter, Mary K., is Junior at Colby College, Waterville, Maine, a girl full of life and trying to find what 'all this vast knowledge in colleges has to do with the joys and daily living' (for a girl, that is)." Nice to hear from you, Chuck.

Paul Hatch writes: "Something over four years ago, I embarked on a partnership in the consulting field and we are still plugging along in the steam and electric fields. We have had our share, perhaps more than our share, of projects and except for a short period some time

earlier, we have been busy. Each job is different from the others and that is stimulating, but it also seems as if each job is pretty much a rush job and the latter part becomes a scramble to complete it. During the summer, I take some time to enjoy my greatest hobby — the Cape — which is really not a place but a disease. Once you get it, you can never get rid of it. I had a bad case of this disease many years ago and I am glad to say that I have never recovered from it. Well, that's about how it is, Ralph, not very exciting, probably not very interesting but for those who may be interested there it is. Will hope to see you soon, maybe next June." Thanks very much, Paul, and we will be looking forward to seeing you next June.

Walter Littlefield sent us his "best wishes" along with the observation that he has "no news" to report at this time. Nice to hear from you anyway, Walter, and do keep us informed of your activities.

We were pleased with this letter from Charlie Foote: "It will be impossible to cover the past fifteen years since my last report without becoming boring. At the present time, I am president of the H. S. Sawyer and Son Company, with plants in Cambridge and Watertown, manufacturers of coated fabrics and industrial safety and protective clothing. However, I am looking forward to semi-retirement, becoming Chairman of the Board next June and leaving Concord, Mass., which has been my home for the past 30 years and going down to Martha's Vineyard, where I have recently completed a new home."

We are very sorry to report the passing of Albert E. Kleinert, Jr., who was residing in Jamaica Plain, Mass., at the time of his death — October 23, 1955. An expression of sympathy from our class has been sent to his family.

We would like to close with this reminder — the 40th reunion of the Class of 1916 will be held at the Oyster Harbors Club in Osterville (Cape Cod), Mass., on the week end of June 8, 9 and 10, 1956. Keep this week end open, and be sure to be with us for the reunion. You'll always remember it as one of the most wonderful experiences of your life. (The committee will have met by the time you get this column, but at this writing the meeting is still three weeks away, so we'll have to wait until the next issue for the full particulars.) See you next month. — RALPH A. FLETCHER, *Secretary*, P. O. Box 71, West Chelmsford, Mass. HAROLD F. DODGE, *Assistant Secretary*, Bell Telephone Labs, Inc., 463 West Street, New York, N. Y.

• 1918 •

Most of the dim multitude never even falteringly seek more light, but where the lesser breed stand still, the elect, stirred by a blazing passion, reach out. Tom Brosnahan, usually confined by the responsibilities of running the Kresge District Office in New York, has the imagination to have as a hobby probing into the past and its effect on our present struggles. This can be a chastening or an inspiring experience. He would be saddened if he learned as much about Pearl

Harbor as I learned while in the State Department during World War II. He would be amazed by discoveries, which would also interest the geneticists, if he undertook a research on who was Abraham Lincoln's father and who his maternal grandfather. He undoubtedly was thrilled by a trip to the Island of San Salvador in the Bahamas where Columbus caught his first glimpse of the New World after "a long and perilous voyage on an uncharted sea." (Tom evidently isn't interested in the kind of arm chair research which would have told him that before heaving anchor Columbus knew Lief Ericson and others had already been over here. Or that the new route to India idea came on the third or fourth trip Columbus made, not on the first voyage. Or the fact that Columbus succeeded in establishing a beach head because he had better weapons than the Indians which Ericson and successors did not.) Tom says: "After arriving in Nassau, we inspected the small ship which wends its tedious way from there to Cat Island and San Salvador. Although it was tied to a pier, the boat rocked slightly and my wife had visions of seasickness. Furthermore, the simple facilities did not conform to her specifications. British subjects in the Bahamas use the word 'simple' where Americans would be inclined to use a stronger or more vehement expression. Anyway, the lady exercised her prerogative in putting her foot right down. She decided to relax in the balmy, friendly atmosphere of Nassau while I made the five-day round trip to San Salvador. The trip was rough but very interesting and impressive, and later I wrote a short story covering my observations and experiences. The manuscript was sent to the Boston *Globe* with a suggestion that they run it as a feature for Columbus Day on the Sunday preceding that day. They followed the suggestion."

"Mike" Flett, the chemist, whose crusade is to clean up America because his mother made him wash behind his big ears, is in the news again. World War I cut off American supplies of dyes and chemicals from Germany, leaving this country with very little know-how in the all-important field of organic chemistry. The shortage stimulated interest and organic chemistry received a big boost as researchers sought to replace nature's products with man-made plastics and fibers. When textiles are dyed, they first have to be cleaned thoroughly. Soaps made from animal fats often remained in the goods, despite repeated rinsings, and they prevented the even application of dyes on fabrics. A better cleaner was needed and Flett set out to find it. He knew the chemical characteristics of the substance he wanted. Finally, in 1930, he made up the detergent in his laboratory in Buffalo, N. Y. Not only did it solve the dye industry's problems, but it soon was in demand for other uses. It was in 1930 that Mike made the first batch of alkyl aryl sulfonate from petroleum, a non-soap cleaner that has taken much of the drudgery out of housekeeping. Those three chemical names represent a substance that is marketed under dozens of trade names as a dishwasher, clothes washer, bubble bath, shampoo, toothpaste

and other cleaners. Flushing streets and highways with detergents will be the next big step toward cleanliness in the United States. The father of detergents now predicts, "It won't be long before city councils will be willing to authorize the rather small expense for detergents for street washing. Five pounds of detergent and 10,000 gallons of water can flush all the grease, oil and dust off a mile of roadway. Put on your brakes and you'll stop — right now."

Dan Wicker, whose hair line shows his old cranium to have been an unusually busy street, has been appointed Assistant Director of Research for F. C. Huyck and Sons, of Rensselaer, N. Y., to have charge of work dealing with papermakers' felts. He has been with the research laboratories of the American Cyanamid Company. I also see by the papers that your Secretary has given an address here or there. Since it has happened some sixty or seventy times this year it suffices merely to mention that two evenings from this writing he addresses the Boston psychoanalysts, tongue in cheek, on the subject of "The Emotional Teeter Board, or Sex Takes a Holiday." — F. ALEXANDER MAGOUN, *Secretary*, Jaffery, N. H.

• 1919 •

There was a nice note from Ev Doten this month saying that he and his wife had had a visit from the Paul Sheelins when they were in Detroit last spring to pick up their new car. Last summer the Dotens headed west for their vacation and were "royally entertained by Larry and Dorothy Dalton at San Diego, Calif." Ev went on to say that Larry is pretty well back on his feet after illnesses and is very much sold on San Diego as the ideal retirement spot.

Charlie J. Farist wrote from Cheshire, Conn., "No news except three granddaughters and floods."

Horace W. Denison also writes that he is the proud grandpa of two. He is manager of J. W. Wood Elastic Web Company in Stoughton, Mass.

Larry A. Gillett, who is chief engineer of the Virginian Railway Company, Norfolk, Va., says that his railroad is doing a land office business. "That, plus the confusion of changing over to Diesel operation in a hurry, makes me work harder than any 1919 alumnus of M.I.T. should. However, I survive and approach each year a little nearer to retirement and I hope, leisure to follow up on my hobbies."

We hear from Dr. Frank Fremont-Smith that he is at present Medical Director and Executive Secretary, Josiah Macy, Jr. Foundation at 16 West 46th Street, New York. From August 1954 to August 1955 he was president of the World Federation for Mental Health and in October of this year he was a member of Governor Harriman's Conference on Aging. From December 1954 to March 1955 he took a trip to Asia and Africa on behalf of the World Federation for Mental Health. So it doesn't sound as though Frank is slowing up very much either.

Jack Fleckenstein writes that he's now out of the oil refining business as he and his partner sold their Crystal Refining Company at Carson City last June. Jack

had appendicitis last summer and spent the "hottest July on record in our local hospital with no air conditioning." He's feeling 100 per cent better now, however. Daughter Joan (M.I.T.'53) is married and living in Golden, Colorado and working in Denver as a geologist for British-American Oil Co. Joan's husband (Charles Mizer) is a Junior at Colorado School of Mines at Golden. Jack's younger daughter, Jacqueline, presented him with his second grandson, a short time ago.

Tom Goodwin let us know that he's still with Con Edison but hasn't seen any classmates for some time.

Your Secretary talked with Ark Richards the other day on the phone, when he was in New York, and Ark told me that his eldest son is graduated from M.I.T., finished with the Army and now is in business with his father.

Had a nice chat with Jim Strowbridge at the beginning of this month about the opening of the M.I.T. Club here in New York, and your Secretary will have lunch with him at the new M.I.T. Club at the Hotel Chatham, 48th Street and Vanderbilt Avenue, New York, N. Y.

Your Secretary, Izzy Patterson, and Nelson Bond attended a very pleasant M.I.T. Westchester party at the Scarsdale Golf Club in October with Lobdell and Pen Brooks as the honored guests and speakers. It was a real success. — E. R. SMOLEY, *Secretary*, 385 Madison Avenue, New York 17, N. Y.

• 1920 •

Earlier this year your Secretary had a very pleasant visit with Homer Howes and the charming Mrs. Howes at their lovely home, 35 Lake Forest, St. Louis. Homer is still traveling a great deal in his capacity as vice-president of Bemis Bag Co. I am happy to tell you that he has lost none of that warmth of spirit that endeared him so to us all.

Hank Couch has a son, Hank, Jr., who entered the Class of '59, M.I.T., last September and is taking Course X, as did his father.

Creighton Stanwood, now of Belmont, Mass., is a member of the Boston Mineral Club, Mineralogical Society, and Lexington Arts and Crafts Society. He is an expert on gems and gem cutting and a noted speaker on "The Art of Lapidary."

Albert Tomlinson, who got his master's degree in chemical engineering with our Class, has recently retired as a director of Standard-Vacuum Oil Company after a lifetime in the oil industry, twenty years of which was in charge of their refining operations.

Ed Burdell, President of Cooper Union, is Chairman of the American-Scandinavian Council For Adult Education which offer students an opportunity for study in the Scandinavian countries.

Lauren Hitchcock, President of the Air Pollution Foundation, has been prominently identified with the battle against "smog" now being waged in Los Angeles. Earlier this year he spoke at the Third National Air Pollution Symposium in Pasadena, urging the greater employment of automation as a prerequisite of diagnosing air contamination.

Edward M. Howard, formerly with the Asphalt Institute, has become a field en-

gineer for the Wire Reinforcement Institute, Washington, D. C. He will be located in Springfield, Ill. Bob Rowe is in Corpus Christi, Texas, address 916 Medical-Professional Bldg. Lawrence Berg has a new address — 21 Staples Street, Melrose, Mass. George Corr is now in Brockton, 50 Churchill Avenue. Finn Borsum is in Oslo, Norway, address Bentebrugt 15. Dick Goldsmith has left New York City for the Coast, address 212 South El Carnino Real, San Mateo, Calif. Charlie Van Dusen is in Bloomfield Hills, Mich., on Bennington Drive. Jack Bartholomew has moved from Detroit to Cleveland, 739 E. 140th Street. Aksil Andersen of Trondheim, Norway, now puts "Professor" in front of his name. George Wilson is now at 38 Worthington Circle, Braintree, Mass. — HAROLD BUGBEE, *Secretary*, 7 Dartmouth Street, Winchester, Mass.

• 1921 •

Happy New Year! Wasn't that an interesting and attractive report by Chick Kane'24 and Ted Miller'22 on the fifteenth year of the M.I.T. Amity Fund? Go read it again and see what a splendid job our Class Agent, Ed Farrand, has done in maintaining our high position in comparison to the general alumni performance. We can do better in some respects and, under Ed's very effective guidance, the statistics can be expected to improve further with the passage of time. The report lists the Class of 1921 as the 25th of the 60 individual groups reporting, or about two-fifths of the way down from the oldest to the youngest group. Twenty-seventh in size, with 605 now on our active class roll, we have given the twelfth largest amount, or \$54,482, since the start of the Amity Fund in 1940. This year, 234 members of the Class contributed, constituting the sixteenth largest group and putting us in a five-way tie for nineteenth place with 39 per cent of the Class contributing. For comparison, the average of all groups was 34 per cent but we have a long way to go to overtake the leader's figure of 79 per cent. Our gift this year was \$8,040, the 22nd largest amount contributed. Our average contribution of \$34.40 was in 36th place and lower than the overall average of \$48.90 for all groups. Again for comparison, the top figure was \$287.90 average contribution per man. As you know, the Karl Taylor Compton Memorial Laboratories for Nuclear Science and Electronics are now an assured reality of M.I.T. through your generous giving and the added generosity of the anonymous Mr. Amity, who matched your gift last year, dollar for dollar. Are you represented among the contributors this year? If not, please send a check to Cambridge now.

Lewis S. Edgerton, consulting engineer and founder and head of the Colonial Craft Shop in Nantucket, Mass., has moved to a new home address at 125 McKinley Avenue, Syracuse, N. Y., but gives no indication of his activities. Andrew Deane, whose promotion to vice-president in charge of materials for U. S. Steel Homes, Inc., was reported last month, has moved from suburban Pittsburgh to the headquarters of the U. S. Steel Corporation's subsidiary in New

Albany, Ind. J. Van Horn Whipple, President of the Whipple Associates, Inc., of New York City, is on a special assignment and can be reached via U. S. O. M. to the Philippines, Manila, A. P. O. 928, care of Postmaster, San Francisco, Calif. Brig. Gen. Ludson D. Worsham is vice-president and project manager of the Ralph M. Parsons Company, 617 South Olive Street, Los Angeles 14, Calif. S. Paul Johnston, Director of the Institute of Aeronautical Sciences, New York City, was a member of the general committee which sponsored last month's Nuclear Engineering and Science Congress and International Atomic Exposition in Cleveland, Ohio, under the auspices of the Engineers Joint Council and 26 engineering and scientific societies. New addresses have been received for Irving D. Marshall, Lemuel Pope and Theodore P. Spitz and are available to you on request.

Richmond S. Clark, who heads the Coordination Division of the Humble Oil and Refining Company, Baytown, Texas, has written to our Class President, Ray St. Laurent, about the arrival of his grandson, Robert Richmond Clark, last September 17. The newcomer is the son of Rich Clark, Jr., a graduate of the University of Texas in transportation, who is engaged in oil transportation and trucking with the B. F. Walker Company in Houston, Texas. Irving D. Jakobson, President and General Manager of the Jakobson Shipyard, Inc., of Oyster Bay, N. Y., phoned regarding his activities on our 35th Reunion Committee and we had a pleasant discussion of Class affairs. Irv has been particularly interested in sharing the work of the M.I.T. Educational Council and deserves a great deal of praise for having established the Jakobson Scholarship Fund to enable freshmen to enter M.I.T. The Amity Fund of M.I.T. announced that during the last year, an additional \$5,820 was contributed to the scholarship established at Technology many years ago in memory of the late John A. Grimmons. Joseph Wenick, Treasurer of the M.I.T. Club of Northern New Jersey, had a major part in the founding of the Club's scholarship fund during the last year and your Secretary had the pleasure of taking part in the first award to an entering freshman from New Jersey.

Dugald C. Jackson, Jr., Chief of Scientific Training at the Ballistic Research Laboratories, Aberdeen Proving Grounds, Md., writes that he has been retired from the Army Reserve with the rank of Colonel, which he has held since active duty in World War II. Dug and Betty report the arrival of their sixth grandchild, Charlotte Elisabeth Seabury, daughter of John and Elisabeth Jackson Seabury. John, together with brothers Dugald C. Jackson, 3d, and David Jackson, were ushers at the wedding of the youngest son, Daniel Jackson, and Doris Maier in Gloversville, N. Y., last October, which saw the entire Jackson family group of 16 in attendance. Dan and his bride reside in Schenectady, where he is an engineer with GE. Mrs. Jackson, a graduate of Hartwick College, Oneonta, N. Y., is an engineering assistant with the Knolls Atomic Power Laboratory.

George Orrin Hartman of Staten Island, N. Y., died on October 9, 1955. A native of Spencer, Mass., he was associated with us in Course I, following service in World War I as a second lieutenant of infantry at Plattsburg, N. Y., and Camp Grant, Ill. He had been district sales manager of the Wickwire Spencer Steel Company in Cleveland, Ohio, before joining the Shipbuilding Division of Bethlehem Steel Company at their yard in Mariners Harbor, Staten Island. On behalf of the Class, sincere sympathy is extended to his family. Sympathy is also extended to Captain John D. Crecca on the recent passing of his mother.

Have you returned the questionnaire attached to our 35th Reunion mailing? It will help considerably if you will mail it right away. The Committee, headed by Mel Jenney, is making rapid progress on the program, which starts on June 8 at the Sheldon House on Long Island Sound at Pine Orchard, Conn., and continues there through June 9 and 10. For Alumni Day, June 11, 1956, the group will go to Cambridge and Boston to attend our annual Class party. Better put these dates on your schedule now. — CAROLE A. CLARKE, *Secretary*, Federal Telephone and Radio Company, 100 Kingsland Road, Clifton, N. J.

• 1923 •

Happy New Year to you all! May it be prosperous and may it bring you the many good things you deserve.

Horatio Bond, XV, Chief Engineer of the National Fire Protection Association, read an excellent paper, "New Hazards for Property Insurers," before the Federation of Mutual Fire Insurance Companies at St. Louis on October 12th (he also treated your scribe to some refreshments in his room). A trip to Chicago revealed the fact that Philip Coleman, XV, was taking his vacation in Mexico — careful, Phil, remember what happened to Lobbie, or is that the reason you went there?

Dave Skinner, XIV, our worthy Class Agent, is making appeals for contributions to the Alumni Fund. He properly calls our attention to the fact that the Class made an excellent record in 1955 when all contributions were earmarked for the Karl T. Compton Laboratories. The Class not only was the second highest in the number of dollars contributed, but also was second highest in the size of average contributions. Well, we always knew we had some real smart men in the Class who could earn a lot of money — and we now know that we have some generous ones as well. Remember that President Compton referred to us as the "vigorous class" so let's keep up the record.

The newly formed Westchester Chapter of the M.I.T. Club of New York held its first meeting at the Scarsdale Golf Club, October 19th. Several of the Class members in the area have signified their intention of joining but some were out of town. Your Secretary felt lonesome but was duly refreshed by members of other classes.

President Jack Zimmerman, II, is planning a meeting of the New York area "Brain Trust." If his ideas go through,

you will know about it before these notes reach you. Press clippings from the Institute have been conspicuous by their absence. How about sending the Secretary a few letters? You would be surprised how a nice cheerful letter starts the morning off right.

The following were nominated by the Alumni Association and formally elected at the October 3rd meeting of the Corporation for positions as Alumni Members of the M.I.T. Corporation Visiting Committees: William S. Brackett, for the Department of Chemical Engineering, George W. Gilman, for the Department of Electrical Engineering, Cecil H. Green, for the Department of Geology, Egon E. Kattwinkel, for the Medical Department, Walter F. Munford, for the Department of Metallurgy. Nice work, fellows. — HOWARD F. RUSSELL, *Secretary*, Improved Risk Mutuals, 15 No. Broadway, White Plains, N. Y. WENTWORTH T. HOWLAND, *Assistant Secretary*, 1771 Washington Street, Auburndale 66, Mass.

• 1924 •

Those chain letters that our president started are really bringing in a flood of news. Of course most of it is biographical, the sort of thing that should go in another class history like our 25th, but biographies are not always tedious and you will find them worked in here and there through these notes from now on. So let's see what the month's collection of news has to offer.

In the first place, a Happy New Year to all of you. This is the start of our thirty-second year since graduation. On the average we are 54 years old, working on our second half-century. As you saw in the Fall Newsletter, we are now in the oldest quarter of the alumni body. We are Old Grads! Some of us, like George Parker and Blay Atherton and Nip Marsh still look, and even at times feel, like youngsters. Some of us are retired, but of these, few are sitting around letting their arteries harden. Some, like Ed Moll, have retired from a lifetime's work into something radically different which brings both fun and profit. It's hard to imagine Ed, with memories of that squat, close-to-the-canvas stance he assumed in the ring, running a glass and china shop. Yet that's what he has been doing for several years and making money at it. And if you don't think he's having fun you should have seen his picture in a recent Springfield paper. Seems there was a Walt Disney show in town featuring a bull, Ferdinand, of course. The picture showed Ed riding the bull bareback through his Lotus China Shop! Probably worth a fortune to him in increased Christmas trade.

That's what one of us has been doing. Now for a change of pace, with no further reference to the bull, Paul Cardinal delivered an address in November to the Food and Nutrition Section of the American Public Health Association. His subject, "Does Advertising Need a Godfather?" Because we had a deadline to meet we couldn't digest all 22 pages (including bibliography) of the address, but we gather that Paul donned his gray flannel suit, pulled down his Bartlett's quotations, and stoutly came to the defense

of Art Kemp and the Madison Avenue boys with their "strong words and hot adjectives." The conclusion: no godfather needed since advertising already has several. Really though, a very thoughtful piece of work. If Homer Davis and Ed Battey and some of the rest of you advertising boys want a copy I'll bet Paul would be tickled to send you one. Look up his address in your new Class Directory. Paul's oldest daughter Lorene has just had another son, fourth child in as many years.

Want some free advice on investments? Gordon Billard, New York Stock Exchange member, sent this offer along in his chain letter so we see no reason why it shouldn't be made available to the entire class. Of course he qualifies it by saying, "I warn you it may not be worth much. When I first started in this business my ignorance was appalling, and it is none the less so today." Enclosed were a couple of pamphlets which read as though somebody who knew his stuff were taking liberties with Bill's signature.

The letter that preceded Bill's in his chain was from Frank Barrett who has at last found a spot to live. He is in Cohasset, just a few miles south of Boston. We can't tell you how to correct your directory since that's all the address he gave. Frank, by the way, has taken on the job of '24 Special Gifts Chairman for the Alumni Fund this fall, so some of you lucky people will be hearing from him in due course. In Clint Conway's letter he mentions our bank president, Joe Naughton, "who got some publicity recently when a bandit car caught on the Washington road had the loot in a bag marked 'Second National Bank of Cumberland.' He is also making a lot of changes in the bank building." That "also" raises some question, and maybe an eyebrow, about Joe's outside interests.

Your Class Agent, Frank Shaw, is, in his other life, Director of Sales for Rust Craft, famous greeting card producers. They have just moved to a new nine-acre building in Dedham where they are operating the second largest lithographic plant in New England. Frank's 19-year-old son, now in the Air Force, spent two years fastening together parts of twenty different vehicles, got it all the way to California where he entered it in several drag races. En route he was held up once by the law for exceeding 100 mph! Colonel Sturdy, one of our movingest members, has left Monmouth for the Bell Telephone Labs in Whippany, N. J. He's liaison officer between the Signal Corps and Bell Labs. With a great faith in the future and undaunted by the past, he is building himself a home. Our expert on the hardness of things, Vincent E. Ly-saght, spoke at the Second International Conference on Hardness Testing held in September at Bremen, Germany. Vin, now general sales manager of American Chain and Cable, mentioned, among other things, a fully automatic Rockwell tester capable of making up to 1200 microhardness tests an hour. For no apparent reason, except maybe because it sounds fantastic, it reminds us of a machine Ted Kenyon developed many years ago when he was working for United Fruit. It tested the tensile strength of bananas.

Three of our classmates have been elected to Department Visiting Committees. For the Department of Mechanical Engineering, John F. Hennessy; Physics, Robert B. Lindsay; Humanities, William H. MacCallum. All seem well cast, especially Bill, who is renowned as a humanitarian, among other things. — HENRY B. KANE, *General Secretary*, Room 1-272, M.I.T., Cambridge 39, Mass.

• 1925 •

It appears that with the 30th Reunion completely out of the way, our classmates have stopped making news, so to those who were unable to attend the reunion, why not sit down and write the secretary something regarding your activities? Many of you had planned to be in Europe last summer, so it is certain that some of you have had experiences worth reporting to other members of the class.

Glancing through the 1925 notes which appeared in the November Review, it is noted that the Reunion Chairman neglected to mention the fact that Frank Turnbull had handled the transportation problems for the reunion. Frank did a magnificent job and had transportation available for everyone at the right place and at the right time. Apologies are in order for his name not having appeared with the other members of the Reunion Committee.

It is also noted that Cornelius Enright was given a new nickname, and your secretary wants to make it clear that, in the record, he is still known as "Connie."

Your secretary mentioned having lunched with Herb Taylor in Chicago and a few months later he was pleasantly surprised to receive a telephone call from Herb, saying he would be in Cambridge for a few hours with his wife, so another most enjoyable luncheon meeting was held. This time, Bill Graves '26, joined us at the M.I.T. Faculty Club. Herb had been in Philadelphia to see his oldest boy married, had stopped in Danielson, Conn., for a short visit with his sister and was on his way to Williamstown to see his other two boys, one of whom is a senior and the other a freshman at Williams College.

You have all received Chink Drew's letter regarding the 1956 Alumni Fund and if you have not already sent in your donation, it is suggested you waste no further time taking care of the matter. Although the class did quite well last year, it was surprising to learn that several who had intended to contribute set the card to one side and hence were not included in the group who contributed to the 30th Reunion Class Gift. It is hoped this will not happen in 1956. — F. L. FOSTER, *Secretary*, Room 5-105, M.I.T.

• 1926 •

We have, from time to time, mentioned that these class notes are composed out of thin air. On every previous occasion however something has arrived in the mail for a nucleus — a letter, some newspaper clippings — something. This month a postcard from the Review Office stating that the notes would be due Nov. 14th was all that came along. Hence we find ourselves this Armistice Day morning seated by the fireplace here at Pigeon

Cove, with a northeast storm roaring outside, doing a bit of dreaming. You have had that picture before, too, but one thing is missing this time, our St. Bernard dog "Kinda." About a month ago "Kinda's" heart gave out and as one of the local kids put it — "she went to dog heaven." She was our third successive St. Bernard and very much a member of the family and truly missed by the fireside.

Last weekend the Pete Doelgers dropped by headed for the Harvard-Princeton football game but very foul weather sold them on the TV version. Pete and his family spent the summer in Europe. He bought a Jaguar for touring the continent and had it shipped over here afterward but now I find he has sold it before I even had a chance to drive it; says he cannot warm up to European cars. That should please classmates Gordon Spear and Art Underwood. Do any of you look at the George Burns and Gracie Allen TV show? The commercial is presented by General Mill's "Betty Crocker." I don't watch TV very often but the other evening Ruth called me to see "Betty Crocker" because she is the wife of classmate Larry Cumming and thru Larry has become quite a devotee of this Cape Ann area. In the commercial she was showing how to make something that made my mouth water — I guess that must mean that it was a successful commercial. This makes me wonder how Larry manages to control his weight — guess I'll have to check next time I see him whether he really is controlling it. "Pink" Salmon recently tried to contact Flint Taylor and learned that he was quite ill. He ran down the story and learned that Flint would be laid up for the next six months but Flint has already written a brief note saying "Don't think for a moment that this is going to keep me from our reunion — the six months will be over by then." Flint's address is Middlesex Sanitarium, Waltham, Mass., and we are sure he will appreciate a note from a classmate. A recent issue of the Gloucester *Daily Times* carried a story and picture of a local boy who had made good in Hollywood. Classmate Dan Bloomberg, Chief Engineer for Republic Pictures, has invented a new wide screen movie for his company. Congratulations to Dan.

Now let's take a look at the brochure of the Belmont where we are going next June for our 30th reunion. Each of you will eventually get one of these brochures that are splendidly printed in color. We were a little disappointed when another class got ahead of us at the Oyster Harbors Club but after hearing Jack Larkin tell about his visit to the Belmont and after seeing what they have to offer it looks to us as though this place fits the needs and wishes of our class even better. The Oyster Harbors Club has a better golf set up but when I visited there recently their manager Don Church (Dartmouth '26) said that if any of our men want to play the Oyster Harbors course it can be arranged. This looks as though we could have our cake and eat it too. The reason we think you will like the Belmont is that it has a set up almost identical to the Wianno Club where we had our 20th and which brought forth more favorable com-

ment than any reunion spot we have ever visited. The Belmont is similarly located with a large private beach directly out front — actually a more spacious beach with a new pavilion and 150 bath houses. The water is 72 degrees! The dining room overlooking the sea is so much like Wianno that entering it blindfolded you would not be sure which one you were in. It seems to me that we still have a couple of die hard tennis players — Pink Salmon? Bill Latham? For them there are two en-tout-cas tennis courts. My fractured French would interpret this as meaning all cased in — at least in the photo windbreaks are shown. Jack, who as you know is a connoisseur of food, tells us that the meals are superb. With plenty of space for us to spread around on the beach, on the terrace, in the large lobby and in the cocktail lounge it just seems like an ideal spot. The location at West Harwich is easily accessible. It is about ten miles from Hyannis where there is good plane service from New York and Boston (I made it in 20 minutes recently.) and the trains also go directly from New York and Boston to Hyannis. Over the road it is 270 miles from New York — 83 miles from Boston. All in all it looks like a good deal and with Cedric Valentine in charge of our 30th you can depend upon a well organized affair. By the way — have any of you noticed how rapidly the five years between reunions is clicking off or does it just seem that way to me. Till February — best wishes! — GEORGE WARREN SMITH, *General Secretary*. E. I. Du Pont de Nemours & Co., Inc. Elastomers Division, 140 Federal Street, Boston 10, Mass.

• 1927 •

Fermo A. Bianchi has been named acting president of the Framingham National Bank. He will retain his position of treasurer of Carlo Bianchi and Company, Inc., one of the country's leading construction organizations.

Your Secretary's daughter Joan was married on November 5th to Graham Spencer and will live in Sacramento, California.

Our files contained absolutely nothing with reference to Carlos Serrano until we received a recent clipping from The Charlotte (N.C.) *News*. Serrano is traveling for the N. Y. office of the Methodist Church's Board of Missions to give a better understanding of mission work to Americans. His home address is 48 Munoz Rivera, Rieques, P.R. At home he is proprietor of the "Green Room — the only bar on the island that doesn't sell intoxicants. In fact it was the island's first ice cream parlor."

Jesse I. Davidson has been named assistant plant manager of the American Cyanamid Company's Fortier plant, New Orleans. He has been with the company since 1952 and prior to that was with the Electric Bond and Share Company for 13 years.

A. Lewis MacClain, a former chief test pilot for Pratt & Whitney, and currently installation liaison engineer for this company in Hartford, addressed the Men's Club of the Center Church of Manchester, Conn., on the subject of "Flight Testing an Aircraft Power Plant." — JOSEPH S. HARRIS, *Secretary*, Shell Oil Company,

Aviation Department, 50 West 50th Street, New York 20, N. Y.

• 1928 •

We have several scraps of news that can be presented at this time, although they are brief. We expect to hear further from the principals in some cases and hope to fill in with details at a later writing.

Robert Buntschuh '55, a '28 son, informs us that his dad and mother have visited Mexico. You may recall that Henry Buntschuh has had two sons attend the Institute. The older, Charles, graduated with the Class of '53.

Another of our travellers is Hector Hagedorn. We learn that he was in Madrid, Spain, last April and participated in the organization meeting of the M.I.T. Club of Spain. How about it, Hector, won't you please give us a story on your Spanish experiences?

Jim Donovan and Charlie Richheimer frequently meet (or nearly meet) and usually under some unusual circumstance. This time Jim was out of his office with a visiting customer from Jacksonville, Florida, when Charlie, who is also from Jacksonville, happened to be "passing through" and telephoned Jim's office to leave a word of greeting.

Without question, the biggest item of news this month is that Don Sturznickle has married. Don stopped in to see Ralph Joep recently and gave him the news. We have been promised that the Sturznickles will send in the complete story. — GEORGE I. CHATFIELD, *Secretary*, 49 Eton Road, Larchmont, New York. WALTER J. SMITH, *Assistant Secretary*, 15 Acorn Park, Cambridge, Mass.

• 1930 •

An interesting time to gather statistics on a class is when they have been out 25 years. For the benefit of the many classmates who were not able to be at M.I.T. last June here are some facts about our Class. Naturally, those that came to the Reunion may not be a completely random sample of the characteristics but this is the best we have. The average gain in weight was 20 lbs. per person with the greatest gain being 95 lbs. and the maximum loss 20 lbs. Forty percent of this group admitted that their hair was grey and 42 percent that they were losing it very rapidly or had lost it completely. Ten percent of the class are still unmarried with 89 percent married once and only 1 percent married twice. The average number of children to a family was 2.2 with the maximum number being 5. The average number of employers per alumnus was 3.4; several had as many as 8 and quite a number with only 1. Sixty percent of our classmates are doing work which is related to what they studied at M.I.T. and five percent are educators. Finally 12 percent of the classmates are either presidents or owners of their companies.

Ted Dourdeville who is in charge of Research and Development at the David Gessner Company of Worcester, Mass., was elected a vice-president at the recent annual meeting. He has been with the company since 1948 and lives on a 250 acre farm in Jefferson which he operates. He has two children. Every once in a

while we hear about Alvah E. Perkins because of relatives in nearby Wakefield. He is now a Lt. Colonel in the U.S. Air Force. For the last four years he and his wife have been in Dallas, Texas, where he was a liaison officer with the Army. He has now left for a new assignment in Madrid, Spain.

George Barker has taken a new job and is now director of Metals Research at Chemical Products Company at Conshohocken, Penna. He is living in Norristown, Penna. Dan Walker is now living in Tewsbury, Mass., and working at the Boston Naval Shipyard as a Mechanical Engineer with the Bureau of Ships. Those of you who were at the Reunion remember that Fred Dickerman was on his way to take a new job with the Lockheed Aircraft Corporation as Chief Preliminary Design Engineer for the Georgia Division. We were glad to hear that he had arrived and now has a home on Riverside Drive in Atlanta.—GEORGE P. WADSWORTH, *Secretary*, Room 2-287, M.I.T., Cambridge 39, Mass.

• 1931 •

Another month has gone by, and it has been similar to many in the past in that not a single piece of information concerning members of the Class of 1931 has crossed the Secretary's desk. However, that can't be said of material concerning the Twenty-Fifth Reunion. The Steering Committee is really rolling, and one of the nice features is the fact that more of our classmates in this area are dropping in on our monthly meetings. In addition to the original nucleus that started the reunion, we have had the following people drop in: Mike White, Bill Jacobs, Bror Gron Dahl, Al Nagel, and Don Sinclair.

A little over six months remain; and although much work has been done, there is still a tremendous job ahead. The Class Book, under Ed Worden, should be quite a volume, and those of you who have hesitated to send items in to the secretary please forget your bashfulness and complete the questionnaire for Ed. It takes time to complete such a volume, and he would appreciate an early answer. Yours for a successful reunion.—A. L. HESSEL-SCHWERDT, JR., *Secretary-Treasurer*, Room 1-125, M.I.T., Cambridge, Mass.

• 1932 •

By now you have had a chance to see Tom Sears' bulletin on Reunion plans and I hope you have written him your thoughts. The first reactions are certainly favorable to the idea. For example, Ray Schaefer has written Tom: "The kind of a program described in Rolf's letter to you of October 6 for the twenty-fifth reunion of the Class of 1932 sounds wonderful to me. The idea of having the reunion on the M.I.T. campus has a great deal more appeal than going to some area outside of Cambridge that may have little or no sentimental background. I am 100 percent for having wives included. I am sure that the wives would be most happy and that they would add a great deal to the success of the reunion. To many of us who unfortunately find ourselves working in areas too far away from Boston, the program which includes the things unusual or unique to Boston and New Eng-

land are of the greatest appeal, such things as the Pops concert, sea food dinner at Marblehead, etc." Ray is Director of Research for the American Brake Shoe Company, Mahwah, New Jersey.

Rolf Eliassen reports that: "Our classmate Thomas Lane, Brigadier General, has been made Engineer-Commissioner of the District of Columbia. This is certainly a real honor and a tremendous responsibility for such a young man on his way up in the Corps of Engineers. This is a combination of Mayor, President of the Board of Aldermen, and City Manager."

I have had a nice letter from Frank Cook, who is now president of his own company, the Frank R. Cook Company, 600 Mile High Center, Denver 2, Colorado, which he has recently organized to design and manufacture aeronautical and electronic equipment. Frank hopes to bring his kids on at Reunion time as they will then be about ready to look at colleges. After years of work in military air research and development, Frank writes: "It's an exciting experience to speculate on the results which might be attained by diverting effort now available to projects planned—not for defense or offense, not for destruction or counter-destruction, not for military measures or counter-measures,—but to projects planned to the betterment of all mankind, say to a level of half the present military Air Research and Development effort."

Ralph Crary is now Eastern Representative for the California Research Corporation, the research unit of Standard Oil of California, with address at 635 Shoreham Building, Washington, D. C. He is living at 6210 Winston Drive, Bethesda 14, Md.

Art Cresswell is in charge of Textile Research, Synthetic Fibers, for American Cyanamid Company at Stamford, Conn. His son, Allan, is in the Navy.

Clarence Renshaw, Colonel, U.S. Army, who helped to direct the construction of the Pentagon, has been made Division Engineer of the North Atlantic Division, Army Corps of Engineers. He will be responsible for all military construction and civil works in the districts of New York, Philadelphia, Baltimore, Washington and Norwalk, Va.

Fred Alexander is still in Albuquerque, New Mexico, with the Sandia Corporation, Sandia Base. He has written me again inviting any M.I.T. men who might be out that way on the second Thursday of any month to call him at Alb. 6-4411, Ext. 2-5152. The M.I.T. monthly luncheon is on that day.

Ken Smith writes that he is still leading a busy life as Senior Mechanical Engineer for Armco Steel Corporation, Butler, Pa. His work is largely in connection with preliminary design for experimental work in conjunction with the Research Department. Ken is vice-president of the Municipal Authority for City Schools and has probably by now been elected to the City School Board. Ken has made an excellent suggestion for regional M.I.T. Alumni meetings in areas near a major city, which could bring together outlying graduates for special events, such as a meeting with Dr. Killian. If others like this idea, drop a note to Rolf Eliassen, who will pass it direct to the Alumni As-

sociation.—ROBERT B. SEMPLE, *Secretary*, Box 111, Wyandotte, Mich. *Assistant Secretaries*: WILLIAM H. BARKER, 45 Meredith Drive, Cranston, R. I., ROLF ELIASSEN, Room 1-138, M.I.T., Cambridge 39, Mass.

• 1933 •

"Man of the Month" honors go to John R. Wiley for his appointment as Aviation Director for the Port of New York Authority. John is described by the Newark (N.J.) *Sunday News* as, "genial, pipe-smoking and the most eligible bachelor in the Port of New York Authority." Congratulations also to Wilmer L. Barrow, recently appointed vice-president for research and development at Sperry Gyroscope Company. Before joining Sperry several years ago, "Zike" was a professor in the Electrical Engineering Department at the Institute. Word has come that Arthur C. Ruge will head the Arthur C. Ruge Associates in Cambridge. This organization is a successor to Ruge-de Forest, noted for research and development in the field of fine wire technology and producers of strain gages. Herman Shea, associate professor in the Civil Engineering Department has joined James W. Sewall Company in Old Town, Maine. Herman heads their Boston office. The Civil Engineering student publication, *Stadia* aptly characterized Herman as follows, "His incomparable wit has ushered many an alumnus into the civil engineering field and the Tech Family." Herman had been responsible for the work in surveying and was director of the Summer Surveying Camp in East Machias Maine. Philip C. Rutledge, a senior partner in the engineering firm of Moran, Proctor, Mueser and Rutledge has appeared prominently in the news for his part in the design of "Texas Towers". Word has come from Edward W. Kimbark who has recently joined Seattle University as Dean of Engineering after spending four and a half years in Brazil as professor of electronics at the Instituto Tecnológico de Aeronáutica. Col. Leslie S. Fletcher, Research Director of the American Society of Tool Engineers' Research Fund has been named program director for the society's 1956 annual technical meeting to be held in Chicago in March. We were grieved to learn of the death of George W. Dennison XV last fall. The class extends its sympathy to his widow and two daughters who survive him in Stoughton, Mass. Congratulations to William L. Scarborough, recently elected director of the cellulose manufacturing division of Du Pont. Congratulations also to Meredith E. Morgan who was married last summer to Ann Davis. Meredith is a senior partner of the financial and industrial consulting firm of M. E. Morgan and Company.—GEORGE HENNING, *Secretary*, 330 Belmont Avenue, Brooklyn 7, New York. R. M. KIMBALL, *Assistant Secretary*, Room 3-234, M.I.T. Cambridge, Mass.

• 1934 •

It is a pleasure to announce that John Hitchcock has agreed to act as Class Agent. In this post, John will participate in our efforts in behalf of the Alumni Fund. This assignment has increased significance between now and 1959 during

which time the Compton Scholarship Fund will occupy our attention. John is with the Dennison Manufacturing Company in Framingham. As Class Agent, he replaces Russ Hastings who has served us well over the years.

In a letter to Mal Stevens, Fred Pattee writes from his home in Monmouth, Ill., which is 200 miles southwest of Chicago. He says, in part, "I am engaged in farming and livestock feeding here and have had very few M.I.T. contacts since graduation with the exception of four years spent in the Navy during the war. My occupation might not sound as if it required a Tech education, but it has been the best background that I can conceive of having. Such an occupation does not bring any contact with Tech men, so I am sort of a 'lone wolf' in that respect."

Hank Backenstoss has provided the following items from his recently extensive contacts with members of the Class. Art Esslinger, who is with McCann-Erickson, Inc., is handling an advertising account for Owens Corning Fiberglass Co. Wally Wise has moved from Sperry Products, Inc., of Danbury, Conn., to the Toledo Scale Company and now lives at 440 West Front Street in Perrysburg, Ohio. George Westfeld reports having had a busy time what with the Connecticut flood damage. George lives and works in Torrington, which was hard hit. Bob Roulston is moving from California back to Boston. Fred Johnson, who is with Fairbanks, Morse and Company, has transferred from their New York office to their plant in Fair Lawn, N. Y.

Jacob Jaeger has joined our vice-presidents, having recently been named as V.P. and Chief Engineer of Pratt and Whitney Machine Tool Division in West Hartford, Conn.

The seventh annual convention of the Audio Engineering Society held in New York in October heard papers by two members of the Class. Jerry Minter spoke on precision master recording lathes as used in making high fidelity phonograph records. Emory Cook discussed the performance of half-mil radius points for use as phonograph styli. — WALTER MCKAY, Secretary, Room 33-211, M.I.T., Cambridge 39, Mass.

• 1936 •

This summer has brought a good deal of interesting news about members of the Class of 1936. As previously reported, plans are moving ahead for the gala 1956 20th Class Reunion and the Class Reunion Committee has been busy during the summer trying to get preliminary matters settled and work up the final details of what should be an excellent program to bring a lot of pleasure to everyone.

The plans are still tentatively to have the Reunion at Weekapaug Inn, Weekapaug, near Westerly, R. I. The 100 or so members and their wives (girl friends are invited this time) have already recalled what a good time they had and are almost to a man, planning to be on hand again. These include:

Jack Austin, Doug Cairns, Hank Cargen, Bill Cresswell, Ben Cooperstein, Dick Denton, Dick DeWolfe, Dana Devereux, Harry Essley, Vince Estabrook, H. R. Foster, Webster Francis, Bill

Garth, Johnny Graham, Al Gray, Eli Grossman, Bob Gillette, Dick Halloran, Jack Hamilton, Tony Hittl, Mal Holcombe, Stan Johnson, Tom Johnson, Larry Kanters, Alice Kimball, Dick Koegler, Elwood Koontz, Roger Krey, Mike Lach, Jim Leary, Roger LeBlanc, Hank Lippitt, Lori Lombardi, Brent Lowe, Frank Lessard, Henry McGrath, Hal Miller, Phil Norton, Dick Ozol, Frank Parker, Larry Peterson, Fred Prah, Ed Rowe, Dorie Shainin, John Sharp, Ariel Thomas, Gordon Thomas, Fletch Thornton, George Trimble, Larry Tobey, Roman Ulans, Py Williams, and Bob Worden.

Of course it may be that some of the parties — such as Bob Worden and Brent Lowe — may not turn up next year after the ribbing they received last time, but on the other hand they — and several others (too numerous to mention) may feel they will have to come to defend what is left of their reputations!

Belated and sad news comes from North Hollywood, Calif., where one of our Class' prettiest coeds, Phyllis Needham, passed on this spring after a brief illness. Phyllis was a structural engineer and a Portland, Maine, native. She was the wife of Donald W. Noble. Phyllis was born May 19, 1915, daughter of Wylder L. and Margaret Hanson Needham. She went to Boston schools and was graduated from Boston Girls Latin School in 1931 before coming to Tech and graduating with our class as an architectural engineer.

Phyllis lived for a few years in Panama, Canal Zone, and worked as a structural engineer for the Navy. She later came to California. Besides her parents and husband, she left a son Daniel Wylder Noble, and two daughters, Margaret and Evelyn Noble, all of California. If all our lives are as interesting as Phyllis' was and radiate as much happiness and cheerfulness as she did while she was a member of the Class, we will have made a real contribution to our fellow man.

Passing from this note of sadness to others of current interest, Chemist Bob Woodward has been singled out as Harvard University's leading contributor to science and the benefit of mankind in 1954-55. Earlier this year President Nathan M. Pusey bestowed on Bob the newly-established George Ledlie Prize. The prize award was recommended by vote of the Council of Deans, representing every faculty of the University. President Pusey pointed out that Bob, who synthesized quinine ten years ago and made major contributions to the synthesis of cortisone, reported two more major chemical achievements last fall. One was the spectacular synthesis of strychnine, an achievement in pure research. The other was the synthesis of lysergic acid, widely used in obstetrical medicine.

The George Ledlie Prize, a \$1,000 cash award, is made by the University every two years. It goes to the individual at Harvard who, in the University's judgment, "has by research, discovered or otherwise made the most valuable contribution to science, or in any way for the benefit of mankind." Bob is Morris Loeb Professor of Chemistry at Harvard.

Early this year Dick Koegler had an interesting article in the Cornell Aero-

2
nautical Laboratory's Research Trends Quarterly on "Why Tails Fail." As Dick pointed out, "In the late 1930's and the early years of World War II, a great many airplanes were designed, test flown and put into production. Suddenly many cases of tail failure were reported where pilots performing high speed dives experienced 'frozen or loose' elevator controls. Sometimes the airplanes, upon entering or recovering from dives, tended to nose up or down. The P-38 Lightning and the P-47 Thunderbolt fighters were among the first to encounter these difficulties. Eventually almost every experimental fighter design encountered them. Subsequent research on tail loading vastly improved the situation but not before numerous tail failures, crashes and fatalities had resulted."

Dick's keen interest in the problem of aircraft tail load determination did not come about by accident. Dick's professional experience began with the Consolidated Aircraft Corporation in 1936 as a stress analyst. He joined the Curtiss-Wright Airplane Division in Buffalo in 1938 and eventually became chief of the structures section there. Dick joined Cornell Aeronautical Laboratory in 1947, and is now head of the aeronautical branch of that department.

More news comes of Mike Kuryla's appointment as Assistant Manager of the Lima, Peru Division of the Cerro de Pasco Corporation. Mike's new duties are concerned in part with evaluating prospective mining ventures in Peru, where Cerro de Pasco already ranks as the country's largest nonferrous mining enterprise. Previous to this appointment Mike was Director of Safety and Employee Services for the United States Smelting and Refining Company, Salt Lake City, Utah, and formerly was engaged as a mining and mill superintendent by Cia Real del Monte Y Pachuca, Pachuca, Mexico.

Louis Whetmore has left the Institute to become professor and head of City Planning and Landscape Architecture at the University of Illinois.

News comes from another of the Class of '36 former students who (like Clax Munro) took up the cloth instead of engineering after M.I.T. In April, Ed Cahill, now in Charlotte, N. C., married Miss Esme Lillian MacKinnon of North Easton, Mass. After a wedding trip on Cape Cod, Ed and his bride returned to Charlotte, N. C., where Ed has his headquarters.

News from Massachusetts indicates that the Board of Selectmen of Billerica (near Lowell) have hired Vernon Packard as superintendent of Public Works to have charge of the highway and water departments as well as town engineering projects. In making the appointment, the Chairman of Selectmen said that Vernon was selected from among ten applicants interviewed by the Board. In addition to his Public Health degree from M.I.T., Vernon holds a B.S. degree in civil engineering from the University of Maine, 1935, and an M.S. degree as sanitary engineer, Harvard University, 1938. Previous to this appointment, Vernon was owner and operator of a retail lumber yard and franchised dealer of manufac-

tured homes in Camden, Maine, where he secured his knowledge of costs, estimating, financing, payroll makeup, business management and sales experience. From 1940 to 1945 he served in the industrial branch of the U. S. Army Ordnance Department where he held the position of Adjutant at a large powder plant for 1½ years; and was Commanding Officer of a gun plant for 3½ years. Both plants were owned by the government and contract operated by private enterprises. From 1938 to 1940, he was water works manager with the American Water Works and Electric Co. at 50 Broad Street, New York City, and was assigned to the plant in Alexandria, Va. From 1935 to 1938 he was district sanitary engineer employed by the Maine State Health Department. Vernon is married and now has two children.

Bill Hope reports from Lewiston, N. Y., that he has recently been appointed to the position of Chief Engineer for Moore Business Forms, Inc., a very interesting and challenging job.

Hank Lippitt reports in on his last fabulous vacation (and business trip). This time, besides visiting parts of Europe he had never seen: Belgium and Amsterdam, up the Rhine (past the Lorelei), and through Switzerland and Austria, he visited the principal countries of the Middle East. As Hank says:

"Istanbul was one of the most interesting places I saw. I arrived there September 10th just a few days after the frightful anti-Greek riots that wracked the city from end to end. It seems that the Turks, who compose about 10-20 per cent of the population of Cyprus, objected to any return by Britain of Cyprus to Greece (after all, the island was Turkish until 1872). An anti-Greek demonstration started by the University of Istanbul students about 8 o'clock in the evening resulted in the breaking of windows at the Greek Embassy and destruction of some Greek store fronts. A mob—composed of a lot of the minority elements in the Turkish population—took over about 9 or 10 o'clock and started looting and burning all the stores along the Istiklal Cadesi (Independence Avenue) from Taksim, the principal square, at one end nearly to the Galata Bridge across the Golden Horn at the other—throwing debris into the street and destroying everything in sight. The tough little Turkish army was called out at 2 o'clock in the morning. As a result, a strict military curfew was in force at 11 o'clock every evening."

Hank also comments that since buying two Persian tapestry rugs he now considers himself an expert (at least as much as anyone in the Class) on Oriental carpets!

As part of the work for the Reunion Committee's planning, a "List of Changes in Class Addresses Since the List of September 1, 1954" has been prepared. Any class member who would like a copy to bring his list up to date should address an inquiry to the Secretary. It is expected that distribution may be made to the Class, but this at present is uncertain.

Volunteers are also requested to take over for the next five years the duty of Class Agent, which for the last several

years has been the responsibility of Bob Gillette in Barre, Vt. If no one wishes particularly to suggest himself to take over the duty of Class Agent, nominations are in order to suggest someone else for the position! If enough suggestions come in perhaps the right man can be drafted before the next Reunion to take over the work. — HENRY F. LIPPIT, 2ND, *Secretary*, 30 Rockefeller Plaza, New York 20, N. Y.

• 1937 •

We have just a few items of interest this time. Haven't heard personally from any of you fellows in quite a time.

Sidney Hirshon of Boston married Miss Consuelo Munoz of Montclair, N. J., on Aug. 31st.

William H. Austin has formed a new organization of consulting engineers in West Cheshire, Conn., in partnership with a Louis A. Warner. Robert W. Beatty has been appointed Chief of the Microwave Circuit Standards Section of the National Bureau of Standards Boulder Laboratories in Washington, D. C. He is working in ultra high frequency research and has been responsible for standards and measurements of impedance, attenuation, and power at UHF and microwave frequencies and has been associated with the design of a number of precision attenuators.

Charles R. Holman '36 has been appointed general manager of the Atlanta Paint Division in East Point, Ga. of the Pittsburgh Plate Glass Co. He started with Pittsburgh Plate Glass Co.'s wholly-owned subsidiary, Columbia-Southern Chemical Corp. as a chemical engineer at Barberton, Ohio, then joined the paint division in 1945, then serving as assistant manager at Newark in 1954.

Harry Wittaker has been appointed assistant director of the research department of plumbing and heating division of American Radiator and Standard Sanitary in New York. He was formerly engineering manager of the U. S. Testing Company in Hoboken, N. J.

Samuel Noodelman has been named vice-president in charge of engineering, sales and production for the B. A. Wesche Electric Co. of Cincinnati, Ohio. He was formerly chief engineer and manager of the Standard Electric Division, Standard Dayton Corporation, Dayton, Ohio. He is also the holder of more than 15 patents.

We got a very interesting article from the Rochester, N. Y., *Democrat and Chronicle* about VanBuren N. Hansford. He has two engineering degrees—mechanical and electrical. During the war he served as a materials inspector in the Rochester office of the U. S. Navy and was assigned particularly to optical goods manufacturing in this area. After the war, he joined Wilmot Castle Co. as assistant to the manager of the light department. When the Morley Machinery Corp. was put up for sale due to deaths in the family, VanBuren and John G. Schalk bought the business along with his attorney, William A. Centner. VanBuren is president of this company, plus two associated companies and is one of the busiest executives in Rochester. He not only may help to design and get the bugs out of a new machine but he also handles most of the customer contacts,

administrative duties involved in a plant employing 60 workers, advertising and similar chores, in addition to keeping an eagle eye on delivery schedules. The new owners have expanded the operations and developed new machines. One of these, the Hansford die handler, now has world wide sale and led to organization of a separate firm, the Hansford Manufacturing Corporation, which handles sales, production and development of new models of the machine. — WINTHROP A. JOHNS, *Secretary*, 34 Mali Drive, North Plainfield, N. J.

• 1939 •

We've just received news that Sam Felix of Course XV has been elected vice-president and general manager of the De Laval Turbine Pacific Company which has recently installed large office warehousing and service facilities at 201 East Millbrae Avenue, Millbrae, Calif. Good luck, Sam.

Sam's immediate family consists of a wife who is a Wellesley grad, class of '44 and two boys aged 10 and 7, and a little princess aged 3. Sam says he'd be glad to receive orders for De Laval equipment at his home, 1423 Hamilton Avenue, Palo Alto, Calif., or at business, and that he would be interested in starting up some correspondence with classmates.

Hilda and I spent a very pleasant evening some weeks ago at dinner with Mr. and Mrs. Sam Sensiper. As most of you know Sam has distinguished himself by becoming a Ph.D. Sam says that does not stand for "Piled higher and deeper." Anyway, Sam is busy at Hughes Aircraft in electronics and says he's working on some kind of a tube which is supposed to do the work of three tubes, each of which have different functions. As an extracurricular activity the Sensipers are about to build a ranch-style home in West Los Angeles. I saw the plans and might suggest to all the alumni in the area, and to those who are not in the area, to put the Sensipers on their itinerary and suggest that Sam and his ever-lovin' barbecue on that nice patio which is outlined on the drawings.

Al Laker has just returned from a vacation in Honolulu and has told me enough semi-unbelievable stories that I'll probably head out toward the Orient again in the very near future to investigate personally some of these Honolulu stories and then try to drum up a little business further over in the Far East. — HAL SEYKOTA, *Assistant Secretary*, 416 Calle Mayor, Redondo Beach, California.

• 1940 •

Your Assistant Secretary ran into Shrade Radtke in St. Louis during the latter part of October. Shrade is now Director of Metallurgical Research at the Reynolds Metal Company in Richmond, Va. His primary responsibility is to build up a well functioning unit for the Company. The majority portion of this column is a contribution of Dave Sunstein, from whom your secretary received a most interesting letter on October 12.

"Assuming you are open to being subjugated to details, I can fill you in on some past years of my existence. As I may

have reported many years ago, I had been employed by Philco Corporation ever since I got out of school. I enjoyed some five years' work in the factory getting a very liberal education on the ways of life and radio and subsequently transferred to the Research Division, to be better able to control what went out the door, instead of how it was made. Here I spent the past ten years. However, after this period of incubation, I felt it was time to spread my wings. I have therefore, this year formed a consulting engineering firm, Sunstein Engineering Company. We have rendered what I hope is substantial service to several of the large companies and industries in the electronic and allied fields, as well as for M.I.T.'s Lincoln Labs." — ALVIN GUTTAG, Secretary, American Security Building, Washington 5, D.C.

• 1941 •

By this time, official reunion mailings should have reached all of you; if they have not, get in touch with me immediately. The location is the Shore Club of the Mayflower Hotel in historic Plymouth, on June 8, 9 and 10. We have exclusive use of the Shore Club, with its own swimming pool, large private beach, and facilities for golf, tennis, sailing, and other sports. The total cost per person — including meals — is only \$32 plus a \$5 registration fee. You can't beat this for a real resort weekend: join us! And if you haven't yet returned your postcard to Ed Marden, do it now, while you are still thinking about it.

A two-column spread on the financial page of the *New York Times* headlined "Senior's Thesis Lands a Diploma — And a \$10,000,000 Business" includes a picture of Howie Samuels and tells of his selling of his Kordite Corporation to Textron-American, Inc., for a reported figure of \$2,000,000, and including a ten-year employment contract for Howie and his brother to continue as executive vice-president and president, respectively. Howie and Kirk Miller wrote their thesis on vinyl clothesline, of which they distributed 100 samples to housewives and inquired whether the product was satisfactory, and if the user would be willing to pay more for it than regular line. After returning from the Army in 1946, Howie again investigated and found that many of the lines were still in use and the women were more enthusiastic than ever about them, so he and his brother rented an abandoned school in Macedon, N.Y. (near Rochester) and went into business. The first year's sales were \$350,000; this year, they are expected to be \$10,000,000. The company at present also makes polyethylene garment and produce bags, freezer supplies, plastic-bristle brooms, and protective covers for many industrial uses. Plans are to increase the space in Macedon (now employing about 40 people), and also to build a plant in California. The firm will still be known as Kordite Corporation, and will be a wholly-owned subsidiary of Textron-American.

Our sympathies to Pierre Hartshorne on the death of his father. — IVOR W. COLLINS, Secretary, 28 Sherman Road, Wakefield, Mass.

• 1942 •

At the top of this month's honors list is Dr. Norman Brown, recipient of the University of Pennsylvania's 1955 Engineering Alumni Teaching Award. He is an associate professor of metallurgical engineering and has served on the research staff of the Engineering School since 1952. The selection was made by a committee of alumni and officials of the U. of Pennsylvania, headed by Dr. F. Lincoln Vogel, of the Bell Telephone Laboratories. Criteria for the award are student-teacher relationships, classroom presentation and work in a specialty other than teaching.

Norman is also currently chief investigator in an Army-sponsored study of the strength and deformation of metals. After finishing at M.I.T. he worked first at the Naval Torpedo Station in Newport as a civilian metallurgist and then from 1943 to 1948 as an Army officer metallurgist at the Ballistics Research Laboratory in Aberdeen, Maryland. He took his M.S. at Stanford University in 1950 and his Ph.D. at the University of California in 1952. Norman, his wife, and their four youngsters reside in Bala-Cynwyd, Pennsylvania.

Also noteworthy and newsworthy is the report that Charles S. Hofmann of Pattersonville, New York has been elected president of the Board of Education of the Woestina High School. He has served for two years as a member of the Board and for several years before that served as a trustee in the school district. On the professional side he is a research engineer at the Knolls Atomic Power Laboratory of the General Electric Co. in Schenectady. Two of the Hofmanns' four boys are in the Woestina School.

After working under a shroud of secrecy since he returned from Paris two years ago, Bernie Driscoll's activities can now be talked about. He has been with the Lincoln Laboratories at M.I.T. working on the SAGE System for continental air defense. Among his various responsibilities has been the production of a color sound movie describing the system. This film is such an outstanding piece of technical clarity and elegant presentation that Mr. Driscoll has been singled out for special commendation. "The heart of the SAGE System is a high-performance, large-capacity digital computer — based on the Whirlwind I electronic computer developed at M.I.T. — and specifically designed for air defense. To this computer are fed data from ground-radar stations, Texas Towers, picket ships, and early-warning aircraft (pregnant geese). The functions of identifying enemy aircraft, plotting and predicting their courses are done electronically and automatically by the computer; and, once weapons are committed, the system directs these to their targets with a minimum of human intervention." (from the Alumni Council Bulletin)

Joseph Altman, of the Eastman Kodak Company, was down this way last month for the convention of the Photographic Society of America. Joe presented a paper entitled, "The Effect of Developers on the Speed and Definition of Black-and-White Miniature Camera Films." It

was chock full of information of great interest to serious amateur photographers. I'm sure he can be persuaded to send out reprints to class members. Joe can be reached at the Research Laboratories, Kodak Park, Rochester, New York. At the same convention your secretary presented a paper on "The Optical and Photographic Characteristics of the Higdonnet-Moyroud or 'Photon' Machine."

Some time back an excellent suggestion came in from Bob Fay out in Cleveland. He proposed that a card file be kept with entries for the growing families, community activities, and professional accomplishments of each class member. These might be circulated periodically to bashful classmates and the news so gleaned be incorporated in these columns. It seemed that a good start might be made by tabulating the items that had appeared over the years in the Class Notes. The project had just about gotten out of the outline stage when our August flood washed away most of my collection of Technology Reviews (along with a large collection of magazines, notes, photographs, old boat parts, garden shoes, and such valuable items that Sandy has been trying to get me to get rid of for the past five years). The Alumni Office has been able to replace the file of Reviews (Sandy has put her foot down on any other similar restoration) so the project can commence. If enough interest is expressed in the idea I shall attempt to round up the local members of the 1952 Nominating Committee and provide the file, cards, pens, table space, and, of course, beer. Happy New Year to All. — LOU ROSENBLUM, Secretary, Photon, Inc., 58 Charles St., Cambridge 41, Mass.

• 1943 •

To catch up on the news which reached me too late for earlier publication, let me begin with material received through newspaper stories. Robert S. Rouffa was appointed as group underwriter of the Home Life of New York last summer. He was a math major in our class, then, after a Navy career, received a master's degree in actuarial science from the University of Michigan. He joined Home Life in 1950, and was elected an officer in 1952. He has been doing actuarial research in group insurance, and in his new post he will direct statistical and dividend work.

George Musgrave has been named an associate of Clair Knox and Associates in Toledo, Ohio, a recently established consulting firm which specializes in "on the job" development of selling organizations. George was controls manager of the Rexair Division of the Martin-Perry Corp. In this new position he will specialize in systems and procedures as well as engineering administration and sales. And from Middletown, Ohio, came word that Joseph J. Parks, of Cincinnati, has been promoted to plant maintenance engineer at the Lockland Plant of the Gardner Board and Carton Company. Before joining Gardner in 1953, Joe was production planner at Eastman Kodak, shipping engineer at Keystone Shipping in Philadelphia, and a maintenance engineer with Kimberly-Clark Paper."

Thomas Peacock, Jr., of Jenkintown, Pa. has been promoted to account executive of the Lavenson Bureau of Advertising of Philadelphia. Tom was formerly a member of the staff of Opinion Research Corporation of Princeton, New Jersey. All these new appointments and promotions deserve hearty handshakes and I personally add "Good Luck" to the above classmates.

Also promoted in stature, from the rank of bachelor, was Sherman Sackheim, whose marriage to the former Paula Steinfeld took place on October 9, 1955. Sherm and Paula are residing at 25 Fifth Avenue, New York. Pete Gratiot of Woodstock, Vermont, whom I mentioned in the notes a couple of months ago as having moved to the hills, has added the chore of teaching advanced math at the Woodstock Country School to his already busy schedule of consulting work. Prof. Ken Wadleigh of M.I.T. attended the General Motors conference for Engineering Educators last summer, as one of 24 educators from all over the country. I'd still like to hear of Ken's experiences in England, which should make good reading.

Bill Vallette wrote in response to my postcard heckling: "In answer to your 'corn,' thought I'd at least attempt to get up to date. I'm still at C.B.S.-Hytron, the TV and radio tube division of C.B.S. as Director of Industrial Engineering. Living in Newburyport, Mass. with my wife, Jean, and our two year old son, John. I've just started the year as president of the Boston chapter of the American Institute of Industrial Engineers, and am active on the packaging committee of the Joint Electron Tube Engineering Council. The November issue of the *American Machinist* will carry an article I recently submitted."

William G. Saunders of New Britain, Conn. has been appointed department head in charge of production planning and control at the hardware division of The Stanley Works. J. T. Weills, who received his master's degree in chemical engineering with our class, was the speaker on "Mechanical Aspects of the Design of a Nuclear Power Reactor" at the first lecture of a series sponsored by the Illinois Institute of Technology. Mr. Weills is with the Argonne Labs.

In the November notes I mentioned that the salary survey was in the works. Unfortunately, the proofs got lost along the line, but it will definitely be in the mail by the time you read these notes. This is the survey which shows how much money you ought to be making and if you are not, then take the copy you receive into your general manager's office and ask him why not. There is only one hitch, and that is some guy in the class ruined the average by marrying the company president's daughter. — RICHARD M. FEINGOLD, *Secretary*, 49 Pearl Street, Hartford 3, Conn.

• 1952 •

It is this writer's very unpleasant task to pass on to you readers the news of the most untimely death of Dimitri Tatistcheff in an automobile accident near Barstow, Calif., on September 17, 1955. Dimitri's wife, the former Catherine Van Rensse-

laer, was seriously injured in the same accident, but latest reports indicate that her condition has improved. Words are so inadequate to express the writer's personal feelings on Dimitri's death; I am sure that anybody who has ever met and known Dimitri or remember his cheerful "hello" when he answered the Phi Kappa Sigma telephone will share this feeling of loss.

Also involved in an automobile accident but fortunately emerging with only minor cuts and bruises were Ellsworth Hall and his wife, who, I think, is the former Laurie Morin. Ellsworth had just finished eight weeks of duty at Jacksonville, Fla., at the time of his accident in that city. He is now attending the Guided Missile School in Memphis and is a graduate of the Officers Candidate School in Newport, R. I., where he was commissioned as an Ensign.

Another 1952-er who is a Newport graduate is Ed Remmers. Ed received his commission in November, 1955, and expects to be stationed in Bethesda, Md., where he will be doing biological research. It was quite a surprise to me to see Ed's beaming face at a Tower Court mixer dance (at Wellesley) back in October, but he seemed quite content with the life of a sailor.

Coming out the other end of the Armed Forces funnel at the end of December was Burge Jamieson. According to Burge and Lib, his wife, they are planning to settle down around Boston where Burge plans to become a student again. More on this situation in my next column.

While down at the M.I.T. Faculty Club a few months back for dinner with our '52 Pee-Bah, Bob Briber, and his most erstwhile apartment mate, Nick Melissas, I happened to look over the top of my glass only to see two very prosperous-looking 1952-ers and their most attractive wives. Bob King and Neil MacTaggart, it was. Bob is now marketing director for Carter Inks on the bonnie banks of the Charles. I'm afraid I've forgotten what Neil is doing to keep himself out of trouble.

John Dieckmann and Al Sevcik have joined the 1952 task force at the Harvard Business School as first year men. Also around are lots of other M.I.T. graduates from other classes, who shall remain anonymous in this column. And we are proud to say that there were no casualties among the 1952-ers in the second year class. We're all back.

Now working around the Boston area are Jim Grace, with the operations research group at Arthur D. Little; Lou DiBona, in the Boston sales office of Westinghouse; and Dana Ferguson, becoming a sales engineer extraordinaire with the Revere people in Rome, N. Y. (one of Boston's outer suburbs). Sandy Isaacs is in perpetual motion between hotel managing in Providence and civilization in Boston. Stan Sydney is reputed to have been brought back to the big league team of the Eisenbergs in Boston from some farm team seasoning in Bangor. Sam Mitchell was in from atomic potato digging in Idaho for his sister's wedding in Flushing, N. Y., in October. Jerry Ellis was seen in Boston on a business trip. Jerry's with a rubber company nowadays.

Mike Chivers looks like a business comet; he was appointed sales manager of Barry Controls, Inc., manufacturers of shock and vibration isolation equipment back last September. Here is another Course XV-er whose picture can join the executive art gallery on the walls of the Sloan building.

On a more academic note, Newell Trask has recently been awarded a Stanolind Foundation fellowship in geology at the University of Colorado for the 1955-6 academic year. Newell will be working for his M.S. during this time. And Lloyd Currie was awarded his Ph.D. at the University of Chicago last September. Lloyd was a holder of three National Science Foundation Fellowships.

Believe it or not, but "Beef" Damon finally wrote a letter: "I am now out engaged in the pursuit of gainful occupation; this month is one year out of Fort McClellan. I have taken up my slide rule and handbook and joined the Rocket Section of the Explosive Research and Development Department of the Olin Mathieson Chemical Company here in East Alton, Ill. (about 20 miles out of St. Louis). I am presently at a very low level of the OMAR project, a joint effort of Olin-Mathieson, Reaction Motors, and Marquardt Aircraft. On September 15, Bobbie and I were blessed with the arrival of a most extraordinary young lady in the person of Leight Harris Damon. She weighed in at 7 lb. 1 oz., half a pound more than her daddy did at birth. Now looking forward to sending her to Wellesley. Just a few more years."

Chow time, now. Tune in next month for the marriages and engagements. Write if you get work. — STANLEY I. BUCHIN, *Secretary*, Chase D-41, Harvard Business School, Boston 63, Mass.

• 1955 •

Happy New Year, you ancients! Just think, last year at this time we were all still part of the thriving M.I.T. community, blissfully looking forward to exams. Where are you all now? We hope that by this time you have heard from us personally and have hastened to bring us up to date on your affairs. This keeping up with hundreds of folks could get to be a real problem without a little cooperation on your part. Now off our soap box (Ivory) and on to another. Glenn Jackson, who has the unenviable job of class agent; i.e., official money-grabber, has been doing a great job of stirring up enthusiasm for the M.I.T. Alumni Fund; so we hope that you responded in the desired manner to the class letter of October 31, 1955 and thus made his load a bit lighter. Since we haven't had quite enough time to make our individual millions, we don't expect to overload the Alumni Fund with a super abundance of dollars, but we would like to startle them with the highest percentage of class participation they've ever seen. "More important than dollars and cents is the Class of 1955's total percent!" Now off the soap box for good!

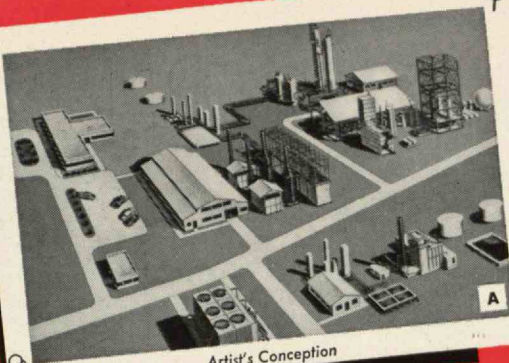
Glenn, by the way, after spending summer and fall in Boston with Dewey and Almy, left for Lackland Field, deep in the heart of Texas, in late November to begin flight training. Karl Reuther,

who went back to the Institute in September for additional abuse at the hands of the Course XV folks, was left roommate-less by Glenn's departure. Our noble president, Chan Stevens, is frittering away his time in the Boston area 1) teaching ninth grade algebra at Browne and Nichols, 2) assisting in teaching geometry at B and N, 3) working as assistant to the director of athletics at B and N, and 4) taking charge of the algebra courses at Suffolk University. That's all. Pete Seagle, who was working near Cincinnati from August until November, is now improving his mind at the Engineer School at Fort Belvoir, Va., as is Don Evans. John Eige survived that ordeal in the fall and is now fully qualified to de-

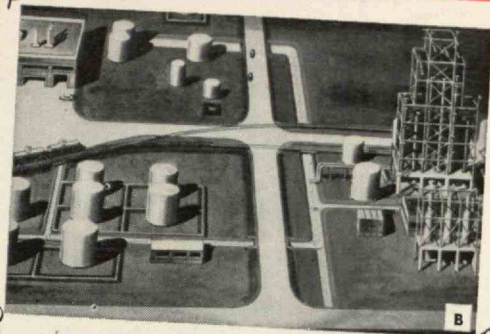
fend our country. Jacques Linder, after a rip-roaring summer and fall in the deep South (with Esso in Baton Rouge) and a trip to Boston to check up on the waning supply of D U pins, reported to Wright-Patterson Field in Dayton, Ohio, in November. Hank DuPont is another noble defender these days, with the Navy. Our contribution to West Point, Cadet C. W. Robertson, has been named coach of his company golf team. Some people in the class do work, though. Geller Meyer, for one, is in Culver City, Calif., with the Semiconductor Laboratory of Hughes Research and Development.

Oh, we mustn't forget the wedding news! In late September Mary Byrnes from Bryn Mawr College and Beverly,

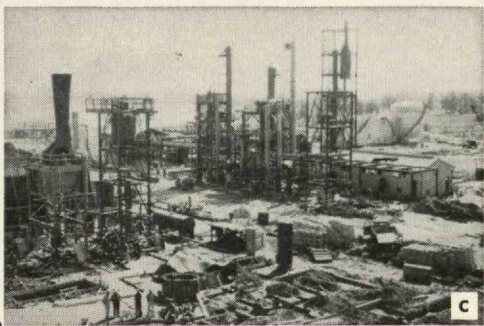
Mass., became Mrs. Dean Zeilon. Dean and Mary are now in Maywood, Calif. Bob Bartlett and his new bride, Constance (Dowd), from Belmont, are in Hanover, N. H. and Richard Nordlof has returned to Rockford, Ill., where he is working with his father, with his wife, the former Joanne Elizabeth Stafford of Salem. Last time we heard, December 17th was the date set for the wedding of Bob Zoller and Roberta Owen of Needham. Golly, we're verbose, but this prattling on is great fun! Let us hear from you so that we can be even more verbose! — DELL F. LANIER, *Secretary*, 3011 Vernon Place, Cincinnati, Ohio. L. DENNIS SHAPIRO, *Assistant Secretary*, Room 10-483, M.I.T., Cambridge, Mass.



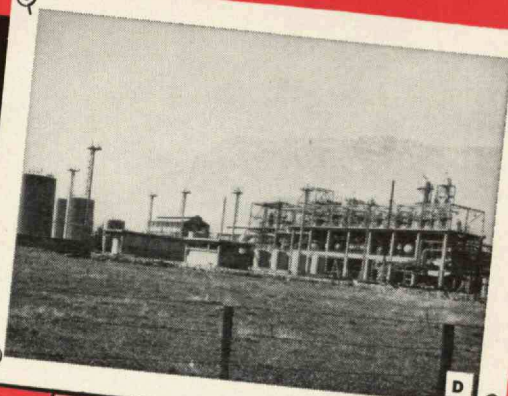
Artist's Conception



Artist's Conception



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- 4 Lummus-designed ammonia plant for St. Paul Ammonia Products, Inc., to be built at Pine Bend, Minnesota.
- 5 Epon Resin units for Shell Chemical Corporation at Houston, Texas.
- 6 Bisphenol unit for Shell Chemical Corporation at Houston, Texas.
- 7 Tetramer, Cumene and Phenol-Acetone units for Societe des Chimiques des Derives du Petrole at Antwerp, Belgium.
- 8 Sulfuric Acid plant for Inland Chemicals Canada Limited at Fort Saskatchewan, Alberta.

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